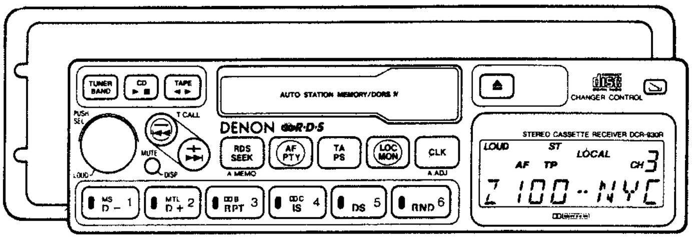
DENON

Hi-Fi Stereo Cassette Receiver

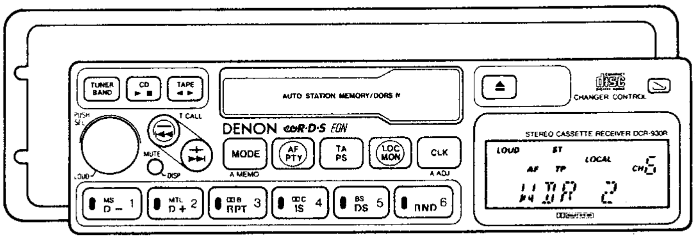
SERVICE MANUAL

MODEL DCR-930R

STEREO CASSETTE RECEIVER


TUNER BAND
CD
TAPE
AUTO STATION MEMORY/DORS
CHANGER CONTROL
DENON
RDS SEEK
AF PTY
TA PS
LOC MON
CLK
STEREO CASSETTE RECEIVER DCR-930R
LOUD
ST
LOCAL
AF
TP
CH3
Z 100-NYC
MS D- 1
MTL D+ 2
RPT 3
IS 4
DS 5
RND 6

(U.S.A. Version)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(Europe Version)

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NIPPON COLUMBIA CO., LTD.

(U.S.A Version)

Please carefully read all safety and operating instructions before installation and use.
It will help you to obtain the best performances from your new Cassette Receiver.

FEATURES

Power: (Both Channels Driven)

20 W × 4 ch	1 kHz/4 ohms (MAX)		
14 W × 4 ch	1 kHz/4 ohms	10%	THD
10 W × 4 ch	40 Hz – 20 kHz/4 ohms	1%	THD

- Detachable Front Panel.
- RDS (PS, PTY, AF, PI, TA, TP, CT).
- 30 Station-presets (18 FM – 12 AM).
- Denon Optimum Reception System IV (FM circuitry-Auto high blend and FM pulse noise canceller).
- Feather touch Full-Logic control deck.
- Dual azimuth tape head.
- Dolby B&C NR**.
- Automatic Memory System.
- Radio on during FF & REW.
- Super hard permalloy head.
- Flexible fader-internal front amp to rear amp and/or internal front amp to internal rear amp.
- Auto reverse cassette mechanism.
- Up/Down manual & seek tuning.
- Music sensor (1).
- Stereo/mono (FM), local switches.
- Metal tape switch.
- Preset scan.
- Night illumination with dash light dimmer lead.
- Power antenna control lead.
- DIN "E" with Easy Installation Lock in sleeve.
- DIN "E" & ISO mount.
- CD changer control.
  - Disc/Intro Scan
  - Repeat play (Disc & Track)
  - 2-Mode random play
  - Automatic/Manual search
- Wireless Remote Control (Option)
- Quartz Clock
- Muting Switch

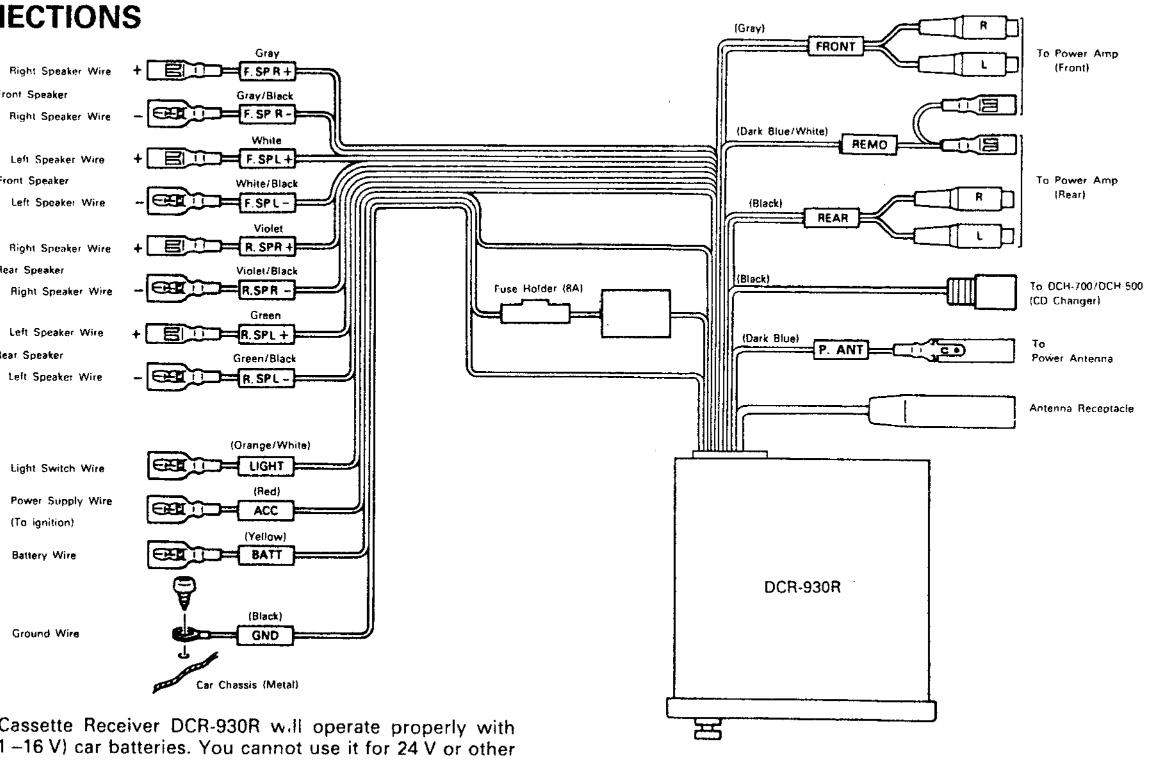
** Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ᗡᗞ are trademarks of Dolby Laboratories Licensing Corporation.

FOR YOUR RECORDS

Please record the serial number of your unit in the space provided below and keep it as a permanent record. The serial number is indicated on the top of the unit.
You will need the serial number, if the need for service should arise.

Model DCR-930R
Serial Number ______________________

CONNECTIONS


Right Speaker Wire
Front Speaker
Right Speaker Wire
Left Speaker Wire
Front Speaker
Left Speaker Wire
Right Speaker Wire
Rear Speaker
Right Speaker Wire
Left Speaker Wire
Rear Speaker
Left Speaker Wire
+
−
Gray
F. SPR +
Gray/Black
F. SP R -
White
F. SPL +
White/Black
F. SPL -
Violet
R. SPR +
Violet/Black
R. SPR -
Green
R. SPL +
Green/Black
R. SPL -
Light Switch Wire
(Orange/White)
LIGHT
Power Supply Wire
(To ignition)
(Red)
ACC
Battery Wire
(Yellow)
BATT
Ground Wire
(Black)
GND
Car Chassis (Metal)
Fuse Holder (8A)
(Gray)
FRONT
R
L
To Power Amp
(Front)
(Dark Blue/White)
REMO
(Black)
REAR
To Power Amp
(Rear)
(Black)
To DCH-700/DCH-500
(CD Changer)
(Dark Blue)
P. ANT
To
Power Antenna
Antenna Receptacle
DCR-930R

DENON Cassette Receiver DCR-930R will operate properly with 14.4 V (11 –16 V) car batteries. You cannot use it for 24 V or other types or car batteries.
Maximum rated current capacity from Remote output and the Power antenna output is 300 mA.

* Do not use the remote output as the power supply for other sets (for example, power amplifiers, RF modulators, etc.). Connect the remote output to the power amplifier's control terminal (remote).

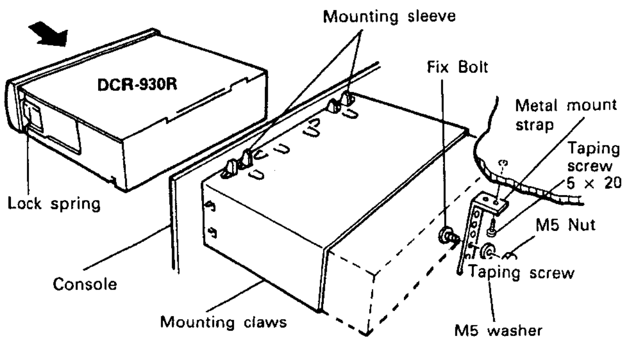
CAUTION! – To prevent damage to the unit.
DO NOT connect the (–) (negative) loudspeaker lead to the ground (chassis) or to any other (–) loudspeaker lead from this unit

* Only connect the set after connecting all the connector wires.

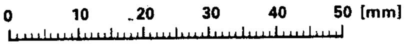
(U.S.A Version)

INSTALLATION

- Use screws supplied as accessories when installing the unit.


Mounting sleeve
DCR-930R
Fix Bolt
Metal mount strap
Taping screw 5 × 20
Lock spring
M5 Nut
Taping screw
Console
Mounting claws
M5 washer

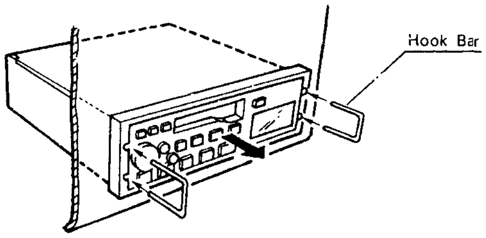
1. Insert the mounting sleeve in the console or dashboard then fasten it to the console with the mounting claws.
2. Insert the unit into the mounting sleeve then check that it is fastened to the mounting sleeve with the lock springs on either side.
3. Fasten the back of the unit to part of the vehicle using the metal mounting strap.


0
10
20
30
40
50 [mm]

ACCESSORIES

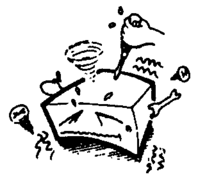
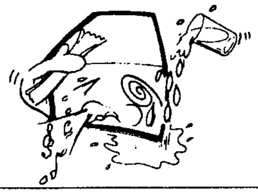
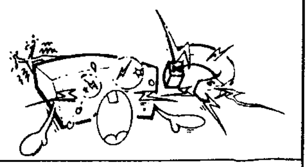
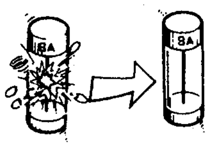
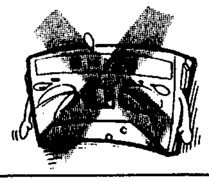
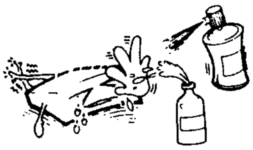
No.	Part name	Q'ty
①	Hook Bar	2
②	M5 Washer	1
③	Tapping Screw 5×20	1
④	M5 Nut	1
⑤	Fix. Bolt	1
⑥	Metal Mount Strap	1
⑦	16P-Wire Ass'y	1
⑧	Carry Case	1

- **To remove the unit**



1. Remove the metal mounting strap fastening the back of the unit from the unit.
2. Insert the Hook Bar into the hole in the panel and pull the unit out.

For safety, heed the following cautions. Failure to do so can lead to accidents and damage to the unit:

Do not disassemble. 	**Do not subject to strong shocks.** 	**Do not let the unit get wet.** 	**Keep away from strong magnetic forces.** 
Replace the fuse with a fuse of the same amperage. 	**Do not use C-120 type tapes.** 	**Do not wipe with benzene or thinner.** 	

Precautions

- The entire preset memory is cleared if the battery cord is disconnected when replacing the battery, etc.
  The time is also reset to 12:00.

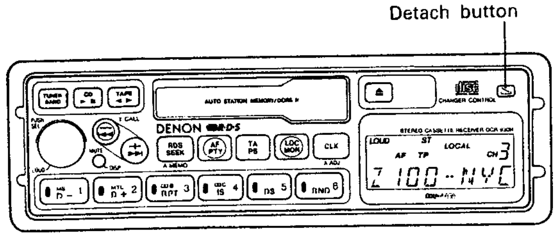
[U.S.A Version]

Using the Removable Front Panel

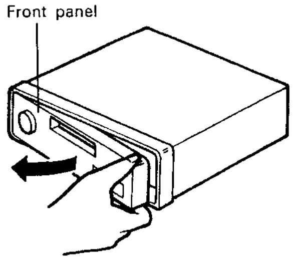
The front panel of this unit can be removed to prevent theft.

Detaching the Front Panel

1. Press button ⧅ , and the right-hand side of the panel will eject.

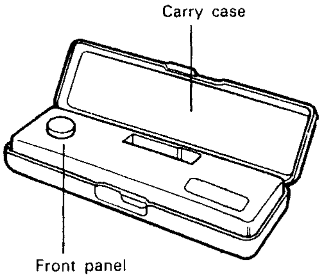


2. To remove the front panel, pull its right-hand side toward you.



- Take care not to put pressure on the display or drop the front panel.

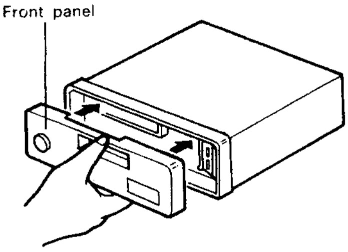
3. Enclose the front panel in the supplied carry case for safekeeping.



Replacing the Front Panel

Push the front panel into the main body.

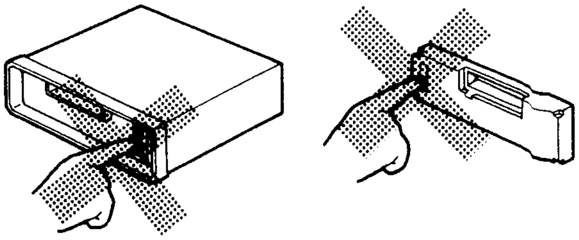
- When replacing the front panel, do not put pressure on the display or control buttons.



- Note that if the front panel is not attached correctly, pushing button ⧅ may not release the panel, and the other control buttons may not function.

Precautions

- Do not touch the contacts on the front panel or on the unit body, since this may result in poor electrical contact. If dirt or other foreign substances get on the contacts, wipe them with a clean, dry cloth.

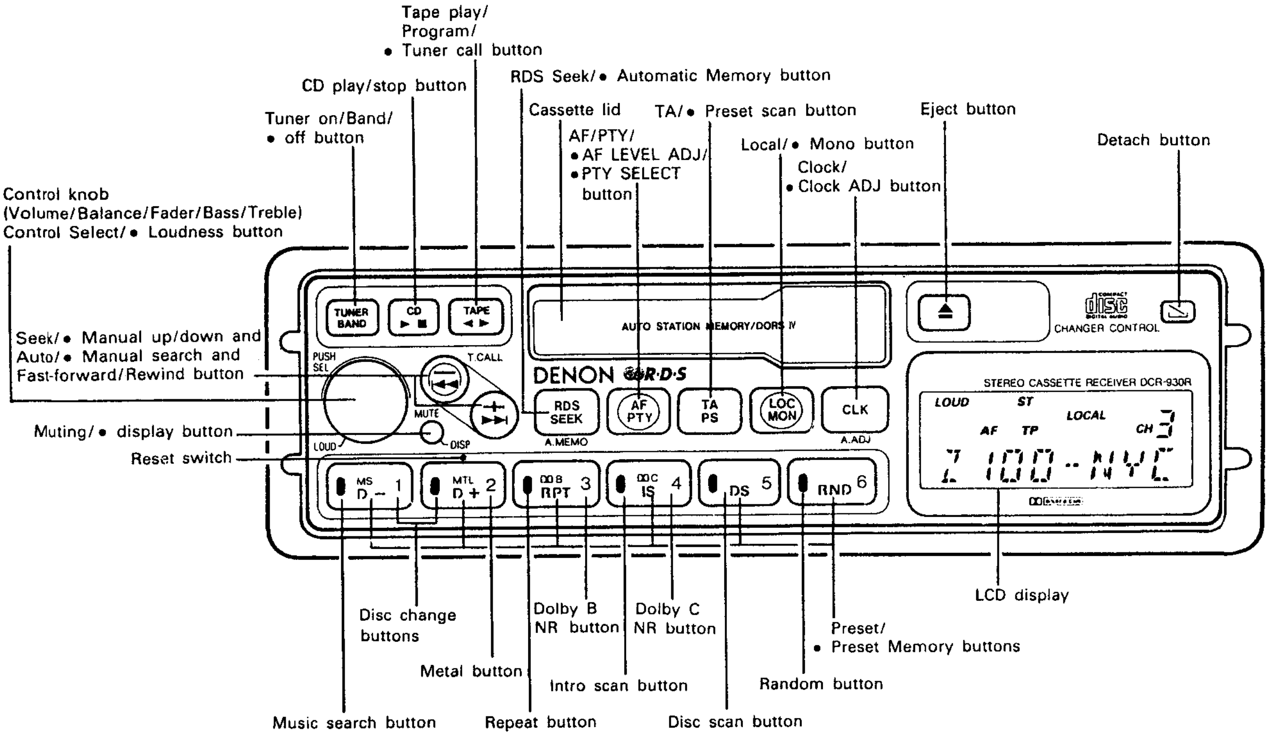


Precautions When Handling the Front Panel

- Do not leave the front panel in any area exposed to high temperatures or direct sunlight.
- Do not drop the front panel or otherwise subject it to strong impact.
- Do not allow such volatile agents as benzine, thinner, or insecticides to come into contact with the surface of the front panel.
- Never try to disassemble the front panel.

(U.S.A Version)

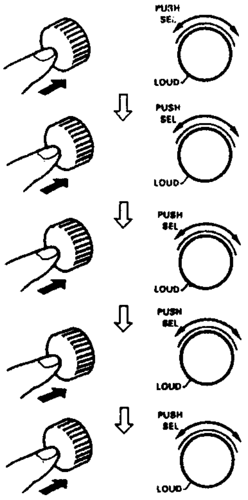
CONTROLS & INDICATORS


Tape play/
Program/
• Tuner call button
CD play/stop button
RDS Seek/• Automatic Memory button
Tuner on/Band/
• off button
Cassette lid
TA/• Preset scan button
Eject button
AF/PTY/
•AF LEVEL ADJ/
•PTY SELECT
button
Local/• Mono button
Detach button
Clock/
• Clock ADJ button
Control knob
(Volume/Balance/Fader/Bass/Treble)
Control Select/• Loudness button
Seek/• Manual up/down and
Auto/• Manual search and
Fast-forward/Rewind button
Muting/• display button
Reset switch
TUNER BAND
CD
TAPE
AUTO STATION MEMORY/DORS IV
CHANGER CONTROL
PUSH SEL
T.CALL
DENON RDS
RDS SEEK
AF PTY
TA PS
LOC MON
CLK
MUTE
DISP
LOUD
A.MEMO
A.ADJ
STEREO CASSETTE RECEIVER DCR-930R
LOUD ST LOCAL
AF TP CH 3
MS D− 1
MTL D+ 2
DB RPT 3
DC IS 4
DS 5
RND 6
Disc change buttons
Dolby B NR button
Dolby C NR button
LCD display
Preset/
• Preset Memory buttons
Metal button
Intro scan button
Random button
Music search button
Repeat button
Disc scan button

To use the functions marked "•", press the button for over two seconds.

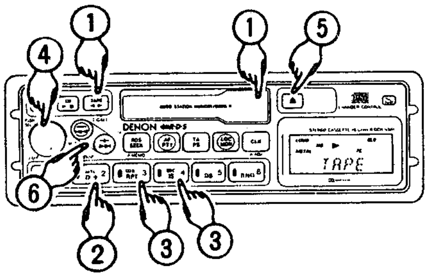
Control knob operation

- The control knob normally adjusts the volume when turned. Press the control knob to switch the adjustment mode in the following order:
  → Volume → Balance → Fader → Bass → Treble →
- The control knob returns to the volume adjust mode five seconds after the last adjustment has been made.

Turn.	Example of LCD display	Mode	Operation
	VOL 17	Volume	• Turn the knob clockwise to increase the volume, counterclockwise to decrease the volume.
	BAL L+05	Balance	• Turn the knob clockwise to shift the balance to the right side, counterclockwise to shift the balance to the left side.
	FAD F+15	Fader	• Turn the knob clockwise to shift the balance to the front side, counterclockwise to shift the balance to the rear side.
	BASS +06	Bass	• Turn the knob clockwise to increase the bass, counterclockwise to decrease the bass.
	TREB -04	Treble	• Turn the knob clockwise to increase the treble, counterclockwise to decrease the treble.
Press (for at least two seconds). 		Loudness	• When this button is pressed for more than 2 seconds, the bass and treble are emphasized, making for a more powerful sound. This can be used to make the sound more listenable at low volume levels.

(U.S.A Version)

Listening to Cassette Tapes



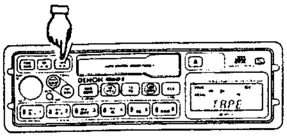
1 Insert the cassette tape. (If a cassette tape is loaded, press the ☐ button.)
"TAPE" will be indicated on the display.
2 When using metal tapes, press the ☐ button. "METAL" appears on the display.
3 Press the ☐ button when listening to tapes recorded in Dolby B, the ☐ button when listening to tapes recorded in Dolby C.
"DDB" or "DDC" appears on the display.
4 Adjust the volume knob to the desired volume.
5 Press the eject button to eject the cassette tape.
6 Press the ⊕ button to fast-forward the tape, the following will appear on the display.
"▷ (flash)" for fast-forward in the forward direction.
"◁ (flash)" for fast-forward in the reverse direction.
Press the ⊜ button to rewind the tape, the following will appear on the display.
"(flash) ◁ ▶" for rewind in the forward direction.
"◀ ▷ (flash)" for rewind in the reverse direction.

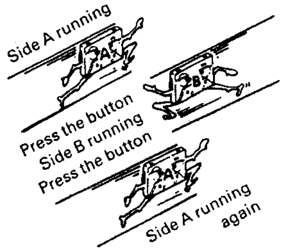
- Always remove the cassette tape from the unit when not in use.

Convenient Functions for Cassette Tapes

Auto Reverse Function

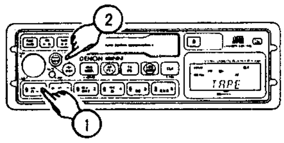
Press the ☐ button for auto reverse. This lets you to listen to the other side of the tape.

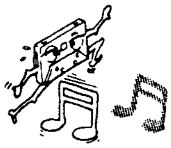




Search Function

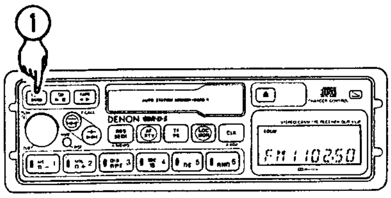
1 Press the ☐ button and check that "MS" appears on the LCD.
2 (1) Press the rewind (⊜) button to return to the beginning of the current selection.
(2) Press the fast-forward (⊕) button to move to the beginning of the following selection.





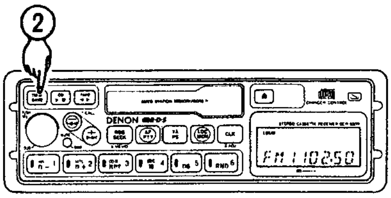
Listening to the Radio

1 Press ☐ button to turn the tuner on.



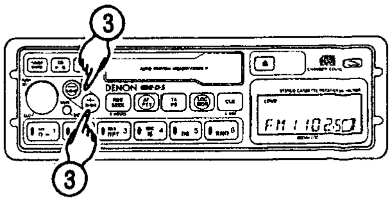
- Press the ☐ button for at least two seconds to turn the tuner off.

2 Press the ☐ button to select one of the FM or AM bands.



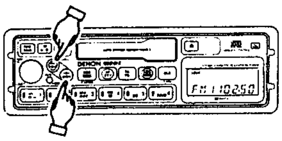
→ FM1 → FM2 → FM3 → AM1 → AM2 →

3 Use the seek buttons to set the desired frequency.
There are two ways to adjust the frequency, as explained below.

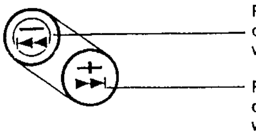


"ST" appears on the display when a stereo broadcast is received.

(1) Seek Tuning



Press the ⊜ or ⊕ button to begin auto seek tuning.

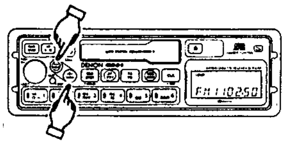


Press this button to move to lower frequencies. Tuning stops automatically when a station is found.

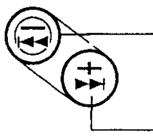
Press this button to move to higher frequencies. Tuning stops automatically when a station is found.

Tuning will not stop at stations whose signals are weak. To tune in such stations, use manual tuning.

(2) Manual Tuning



Press the ⊜ or ⊕ button for at least two seconds to begin manual tuning.



The frequency decreases in steps of 200 kHz for FM and 10 kHz for AM each time this button is pressed.

The frequency increases in steps of 200 kHz for FM and 10 kHz for AM each time this button is pressed.

[U.S.A Version]

Convenient Functions for the Tuner

Presetting of 18 FM Stations and 12 AM Station

18 FM stations, and 12 AM stations can be preset at buttons 1 to 6 then tuned in directly.

Example: Preset 102.5MHz at preset button 1 for FM1:

1 Tune in FM1 102.5MHz using the seek tuning or manual tuning method.
2 Press preset button 1 (▮ -1) and hold it in for at least two seconds.
3 After about two seconds, a "beep" is heard.
4 "CH1" appears on the display. The station is now preset in the memory.

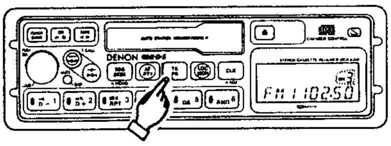
(Use this procedure to store other stations. To tune in preset stations directly, simply press the button at which the station was stored.)

Presetting Scanning

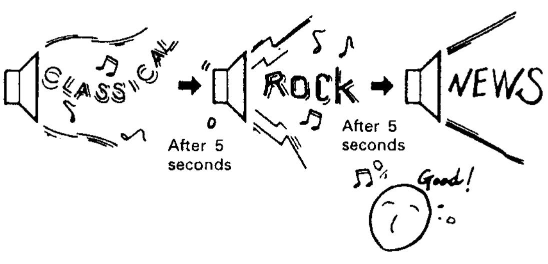
This function lets you check the stations stored at preset buttons 1 to 6.

Example: When you have preset a classical music station, a rock station and a news station but have forgotten:

What did I store at preset buttons 1 to 6?



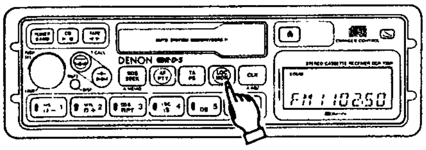
Press the (TA PS) button for at least two seconds.



The stations are received in order for 5 seconds each.

Local Function

Use this to search for only stations with strong signals when tuning in the seek mode.



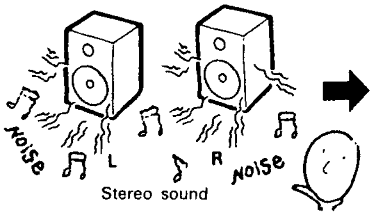
Your DENON Car Tuner is equipped with the most advanced mobile tuning circuitry available. You may also find using the LOCAL button under very high signal strength situations desirable when turning by SEEK mode.
"LOCAL" will be indicated on the display.

- Press the (LOC MONO) button.

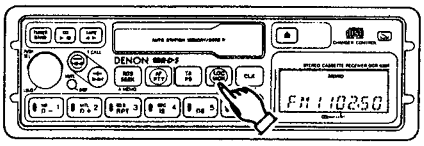
Mono Function (Auto/Mono Selection)

This function is used at the time of FM reception when the stereo broadcast is hard to hear or when there is noise interference. It changes the stereo reception to monaural.

Stereo music station

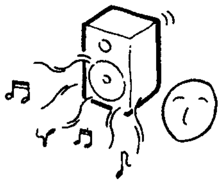


Stereo sound



Press the (LOC MONO) button for more than 2 seconds.

Stereo music station



MONO sound

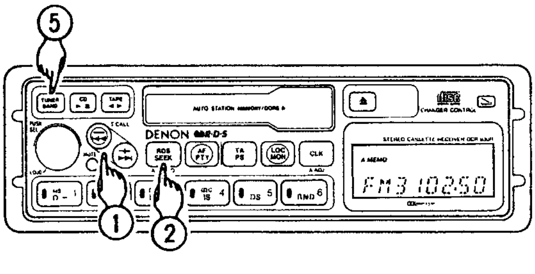
- Even when the MONO button is used, there are occasions when the sound is not improved, depending on the reception conditions.

(U.S.A Version)

Using the Automatic Memory System

Use this function in areas where you do not know the frequencies of stations to automatically find stations and store them at the preset buttons.
The stations are automatically stored at the FM3 and AM2 bands, so if you store the stations you normally listen to at the FM1, FM2 and AM1 bands, this function lets you quickly find stations in different areas without clearing the stations you normally listen to.

1 Use the ○ and ○ buttons to select the frequency from which you want to start searching.
2 Press the ☐ button and hold it in for at least 2 seconds.
3 "A.MEMO" appears on the display. The band automatically switches to FM3 for FM, AM2 for AM, and the stations with the best reception are stored in order at preset buttons 1 to 6.
4 Once the stations with the best reception are stored for the FM3 (AM2) band, the "A.MEMO" indicator turns off.
5 Use the ☐ button to switch back to the FM1, FM2 or AM1 band.

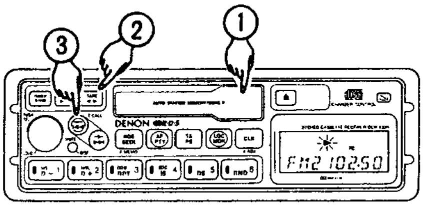


NOTE:
- Stations can also be stored manually for the FM3 and AM2 bands. However, when the automatic memory function is used, these stations are replaced by the new stations with the best reception.
- If there are fewer than six stations with good reception, the number of the fast preset button at which a station was stored is indicated on the display.
- In rare cases, it may happen that no stations are stored when the automatic memory function is used, due to poor reception conditions, etc.

Using the Radio on during FF & REW (Tuner call)

Using the Radio-on Function During the Fast Forward or Rewind Operation.
This function allows you to receive FM/AM broadcasts when you are listening to a tape and you fast forward or rewind the tape. Music will continue (from the radio) when you fast forward or rewind the tape.

1 Load the cassette tape.
2 Press the ☐ button for more than 2 seconds. "TC" appears on the display.
3 Press the fast forward or rewind button.
4 Select your desired braodcast station with the ☐ button and the ○ or ○ buttons.
5 When finished fast forwarding or rewinding, the unit will play back the tape.



NOTE:
- When the radio is operating during fast forwarding or rewinding, pressing the ☐ button for more than 2 seconds will cancel the function which switches to the radio during fast forwarding or rewinding the tape.
- When "MS" is selected with the ☐ button (which means during the cuing operation), fast forwarding or rewinding will not cause a switch to the radio.

[U.S.A Version]

Radio Data System (RDS)

RDS is a new FM broadcasting system promoted by the National Radio System Committee. Inaudible control signals are transmitted with the subcarrier to automate FM reception and maximize operating ease. With RDS, the tuner can display the call name of the currently received station or search automatically for the strongest transmitter signal with the same or any specified program. These features are highly useful also for receiving traffic information or ensuring optimum reception in a car.
At present radio stations in many markets have already started to broadcast with RDS signals, and many more stations are expected to start broadcasting soon.

RDS Services

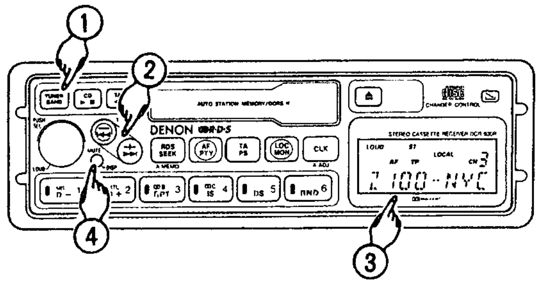
The DENON cassette receivers DCR-930R are equipped for RDS broadcast reception and offer the following features:

- **Program Service Name (PS)**
  The name of the RDS station currently received is shown on an 8-character display.
- **Program Type Identification (PTY)**
  The DCR-930R includes a PTY function that lets you select a station by specifying the type of program you want to listen to: Country, Jazz, Top 40, etc. PTY then automatically tunes in to a station broadcasting the type of program specified. As many as 22 different user selectable program identifications are provided.
- **Alternative Frequencies (AF)**
  Some RDS stations broadcast the same radio program on different frequencies.
  When the AF function is activated, the DCR-930R will automatically seek out the stronger signal of a station whenever the signal strength changes. This feature ensures stable reception at all times.
- **Program Identification (PI)**
  The PI function permits broadcast station identification. When storing stations in the preset memory, the DCR-930R stores the PI code along with the station's frequency. When a station is then selected and its field strength is unsufficient, the unit automatically selects a station with a higher field strength (and the same PI code).
- **Traffic Announcement Identification (TA)**
  The TA function automatically selects a station which broadcasts traffic information. Even during CD or cassette playback, the DCR-930R will automatically switch to this station whenever a traffic announcement is broadcast.
- **Traffic Program Identification (TP)**
  If the station currently received is one which carries traffic information, the TP indicator on the display lights up.
- **Clock Time (CT)**
  RDS stations usually broadcasts the current time for added convenience. The CT function also lets you easily make adjustments between daylight savings time and standard time.

Using the RDS (Radio Data System)

- The RDS functions are for the FM band only, and will only work on stations that are broadcasting with the RDS service.
- Not all RDS stations offer all the RDS services listed on the previous page. Some RDS stations may only provide some of the RDS services.
- The RDS functions may not work properly when the reception is poor.

PS (Program Service Name) Function



Displaying the PS (Program Service Name) on the LCD

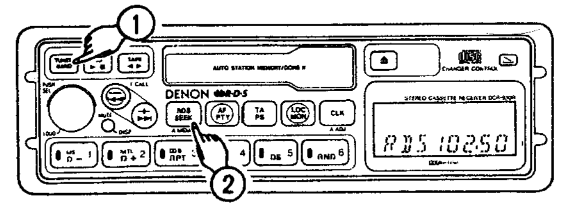
1. Press the ⊟ button and select FM1, FM2 or FM3.
2. Use the seek/manual up/down buttons to tune in the desired station.
3. After the frequency of the station being received appears on the display, the display switches to the PS (Program Service Name), if the station being received is an RDS station.
4. To check the frequency of the station being received, press the Q button and hold it in for two seconds. The display changes to the frequency. Three seconds later, the PS (Program Service Name) reappears. When in the PTY mode, however, the PTY code appears after the frequency is displayed before the PS reappears.

<Notes on Using the PS Function>

1) The PS (Program Service Name) is not displayed if the station being received is not an RDS station or if its signals are weak.
2) The PS (Program Service Name) is only displayed for the FM1, FM2 and FM3 bands, not for the AM1 and AM2 bands.
3) The PS (Program Service Name) is always displayed for the FM1, FM2 and FM3 bands.

(U.S.A Version)

RDS Search



Use this function to automatically tune in stations with RDS broadcasts.

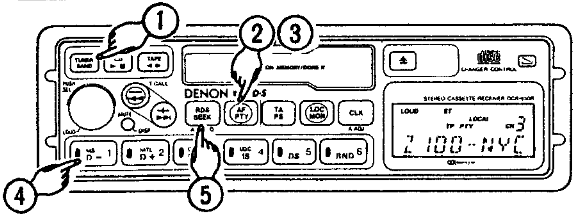
1 Press the TUNER BAND button and select the FM1, FM2 or FM3 band.

2 Press the RDS SEEK button to automatically search for stations with RDS broadcasts. When an RDS station is tuned in, the station's name appears on the display.

<Notes on RDS Search Function>

This button has a slightly different function if the PTY or TA function is switched on.

PTY (Program Type) Function

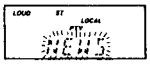


Use this function to automatically tune an RDS station broadcasting a certain type of program.

1 Press the TUNER BAND button and select the FM1, FM2 or FM3.

2 Press the AF PTY button twice, and check that the "PTY" indicator has appeared on the display.

3 Press the AF PTY button for at least two seconds and check that the indicator on the display has started to flash. (The program type mode is selected.)



4 Press the D- 1 or D+ 2 button to select the type of program.

- The program type changes each time the D- 1 or D+ 2 button is pressed.
- See the following page for a list of the program types which can be selected.

5 Press the RDS SEEK button.

6 An RDS station of the type you have selected is automatically tuned in.

- "PTY SEEK" and the selected program type are displayed alternately while a station is being tuned in.
- It is not possible to tune in stations broadcasting the type of program you have selected but not offering RDS services, or RDS stations which do not offer the PTY service. At this moment a "beep" sound is heard.

PTY (Program Type) Function

- **Tuning in RDS stations broadcasting a certain type of program using the preset buttons:**

1 Press the AF PTY button twice, and check that the "PTY" indicator has appeared on the display.

2 Use the above procedure to tune in an RDS station playing the desired type of program.

3 Press a preset button for at least two seconds to store the RDS station at that button. (Refer to Page 12.)

- The PTY code is stored in the memory along with the frequency and the station name.

4 Press the preset button. The PTY code stored in the preset memory is displayed on the display for five seconds.

- If the "PTY" indicator is not displayed on the display, the PTY code is not displayed, and the station name or frequency is displayed.

5 Press the RDS SEEK button.

6 An RDS station broadcasting the type of program you have selected is tuned in.

<Note on tuning in RDS stations using preset PTY codes>

If you have already entered an RDS stations in a preset memory, the unit will remember what the PTY of this station is, and will allow you to tune in another RDS station broadcasting the same PTY code.

Example If you already have a "NEWS" station entered in preset 4, and you want to find another "NEWS" station:

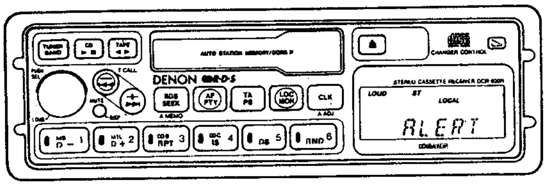
1) Push 4 button.

2) Make sure that PTY mode is selected and shows on the display. (If it is not, push the AF/PTY button until "PTY" is shown on the display)

3) Push the RDS SEEK button. The unit will search for another RDS station with the "NEWS" PTY code.

(U.S.A Version)

Emergency Program Reception Function



If the RDS station being received on the FM1, FM2 or FM3 band transmits an Emergency code, "ALERT" appears on the display and a beep tone is heard.

During an emergency broadcast, the volume on the unit will turn up even if the volume knob is set to the minimum. Also, if the unit is in the Cassette, or CD mode, the unit will automatically switch to the radio, indicating an emergency. Follow the instructions being broadcast.

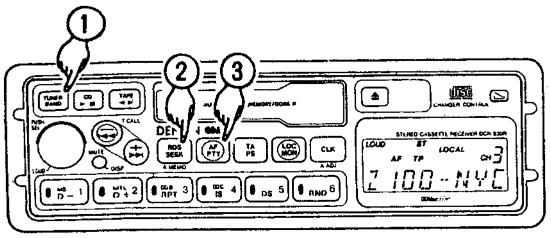
- This function will only work when receiving RDS stations (stations with program service names). In addition, it may not work properly if the signals of the station being received are weak.
- There are no buttons for the Emergency operation.
- This function will only work during actual emergency broadcasts, and will not work during tests of the emergency broadcast system.

List of PTY Program Types

DISPLAY	PROGRAM TYPE	DISPLAY	PROGRAM TYPE
NO RDS*	(The station being received is not an RDS station or its signals are weak.)	SOFT	Soft (Easy)
NO PTY*	No program type	NOSTALGA	Nostalgia (Standards)
NEWS	News	JAZZ	Jazz
INFORM	Information	CLASSICL	Classical (Fine Arts)
SPORTS	Sports	R+B	R&B (Urban)
TALK	Talk	SOFT R+B	Soft R&B
ROCK	Rock	LANGUAGE	Language (Ethnic)
CLS ROCK	Classic Rock	REL MUSC	Religious Music (Gospel)
ADLT HIT	Adult Hits	REL TALK	Religious Talk (Teaching)
SOFT RCK	Soft Rock	PERSNLTY	Personality (Full Service)
TOP 40	Top 40	PUBLIC	Public (NPR)
COUNTRY	Country	ALERT*	Emergency
OLDIES	Oldies (Gold)		

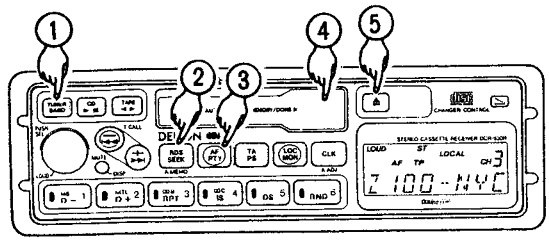
* Cannot be selected in the program type selection mode.

AF (Alternative Frequency) Function



To constantly receive RDS stations broadcasting the same program on multiple frequencies

1 Press the TUNER BAND button and select FM1, FM2 or FM3.
2 Press the RDS SEEK button to tune in an RDS station.
3 Press the AF PTY button until "AF" appears on the display.
- When the signal strength of the station being received becomes weak, "AF" flashes on the display, and the unit searches for another station that is broadcasting the same program based on the AF code list.
- The frequency changes if another station broadcasting the same program is found.



Automatically tracking stations broadcasting the same program on different frequencies while playing a cassette tape so that reception is optimized when switching back to the tuner

1 Press the TUNER BAND button and select FM1, FM2 or FM3.
2 Press the RDS SEEK button to tune in an RDS station.
3 Press the AF PTY button until "AF" appears on the display.
4 Insert a cassette tape.
- When the signal strength of the station being received becomes weak, "AF" flashes on the display, and the unit searches for another station that is broadcasting the same program based on the AF code list.
- The frequency changes if another station broadcasting the same program is found.

5 When the ▲ button is pressed, or if the TUNER BAND button is pressed, the radio plays the same radio program as before, using the frequency on the AF code list with the best reception.

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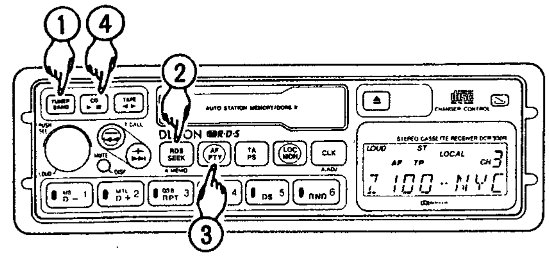
AF (Alternative Frequency) Function (When using the optional DCH-700/500 CD-Changer)



Automatically tracking stations broadcasting the same program on different frequencies while using the CD-changer so that reception is optimized when switching back to the tuner

1 Press the TUNER BAND button and select FM1, FM2 or FM3.
2 Press the RDS SEEK button to tune in an RDS station.
3 Press the AF PTY button until "AF" appears on the display.
4 Press the CD button and start CD playback.
- When the signal strength of the station being received becomes weak, "AF" flashes on the display, and the unit searches for another station that is broadcasting the same program based on the AF code list.
- The frequency changes if another station broadcasting the same program is found.

5 When the CD button is pressed, or if the TUNER BAND button is pressed, the radio plays the same radio program as before, using the frequency on the AF code list with the best reception.

AF (Alternative Frequency) Function

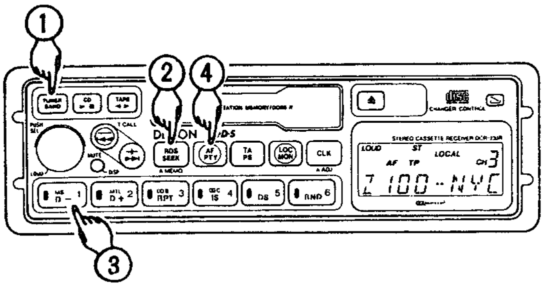
<Notes on Using the AF Function>

1) With the AF function, the AF button is pressed and stations broadcasting the same program as the station currently being received are searched for based on the AF list. The AF list includes stations broadcasting the same program. If no receivable station is found when the list is checked through 10 times, stations are searched for using the PI codes (codes for stations broadcasting the same program) and a beep tone is sounded. This operation is then repeated. Thus, in areas far from the broadcasting stations, the alternative frequency function may not work.
2) When presetting, both the program name, PI codes, AF list and PTY code are stored along with the station's frequency for buttons M1 to M6 on the FM band.
3) The sound may be interrupted once ever 10 seconds after the RDS SEEK button is pressed while the station with the best reception is being searched for based on the AF list. This is not a malfunction.
4) "AF LEV n" (n = 0 to 7) appears on the display if the AF PTY button is pressed for over 2 seconds. Now use the M1 and M2 buttons to change the value of "n" and the strength of the signals at which the alternative frequency function will begin operating.
The lower the value of "n", the weaker the signals of the station being received must be before the AF function begins operating.
5) "AF" flashes on the display if the signals of the station being received become weak and the data cannot be identified.
6) The AF function may not work properly for RDS stations which do not transmit AF lists.

23

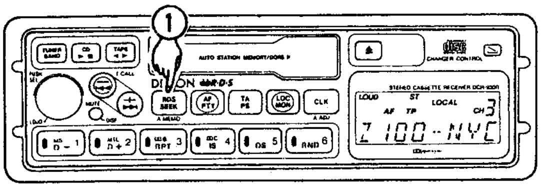
[U.S.A Version]

AF (Alternative Frequency) Function/PI (Program Identification) Function



Storing the AF lists and PI codes in the preset memory

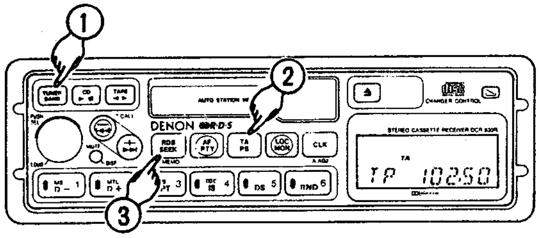
1 Press the TUNER BAND button and select FM1, FM2 or FM3.
2 Press the RDS SEEK button to tune in an RDS station.
3 Press the preset memory button (M1 to M6) at which you want to store that station and hold it in for at least 2 seconds.
4 Press the AF PTY button until "AF" appears on the display.
5 When a preset button at which the AF list or PI codes was stored is pressed, the AF or PI search operation is performed automatically. The stored broadcast stations and broadcast stations carrying the same content are searched for based on the AF list.



If no new broadcast station with strong signals is found when the AF PTY button is pressed

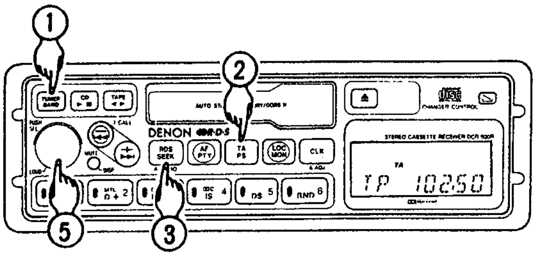
1 Press the RDS SEEK button to seek for a new RDS station.
2 Tune in an RDS station.

TA (Traffic Announcement) Function



Searching for TP (Traffic Program) broadcast stations automatically

1 Press the TUNER BAND button and select FM1, FM2 or FM3.
2 Press the TA PS button. "TA" appears on the display.
3 Press the RDS SEEK button.
4 Tuning automatically stops at an RDS station broadcasting traffic information. "TP" appears on the display and the TP station is received.

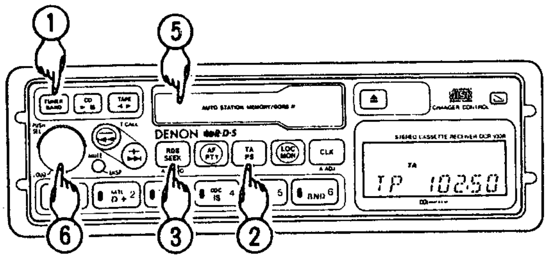


Setting the volume when a TA (traffic information announcement) starts while in standby (on FM1, FM2 or FM3)

1 Press the TUNER BAND button and select FM1, FM2 or FM3.
2 Press the TA PS button. "TA" appears on the display.
3 Press the RDS SEEK button.
4 Tuning automatically stops at an RDS station broadcasting traffic information and that station is received.
5 When a traffic announcement begins, the volume is set to the level at which it was set the last time a traffic announcement was received (the TA level). "TA VOL" appears on the display if the volume is adjusted at this time.
6 The TA level can be changed by changing the volume when traffic information is being broadcast. Also, when the next traffic information is tuned in, it is played at the previously set volume level.
7 The volume returns to the original level once the traffic announcement is over.

(U.S.A Version)

TA (Traffic Announcement) Function



Automatically listening to traffic information announcements while playing cassette tapes

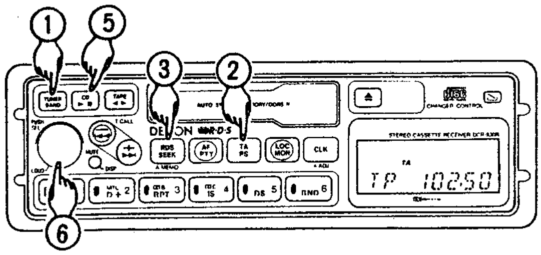
1 Press the TUNER BAND button and select FM1, FM2 or FM3.
2 Press the TA PS button. "TA" appears on the display.
3 Press the RDS SEEK button.
4 Tuning automatically stops at an RDS station broadcasting traffic information and "TP" appears on the display.
5 Insert a cassette tape.
- If a traffic information announcement is being broadcast when the cassette tape is inserted, the tape is not played.

6 Use the control knob to adjust the volume of the cassette tape.
- When the traffic information announcement starts, tape play is set to the pause condition and the set automatically switches to the traffic information.

<Notes on Using the TA Function>

1) With the TA function, the TA button is pressed and stations broadcasting the same program as the station currently being received are searched for based on the AF list. The AF list includes stations broadcasting the same program. Thus, in areas far from the broadcasting stations, the alternative frequency function may not work.
2) A beep tone is sounded if there is no station broadcasting a Traffic Program or if its signals are weak. If this happens, press the TA PS button again so that "TA" disappears from the display, then wait until entering an area in which a station broadcasting TPs can be received and press the TA PS button again, then press the RDS SEEK button to tune in a traffic information station.
3) "TA" flashes on the display if the signals of the station being received become weak and the data cannot be identified.
4) Some stations broadcast TA (traffic announcement) signals even when they are not broadcasting traffic information announcements. In such cases, the TA function will not work properly.

TA (Traffic Announcement) Function (When using the optional DCH-700/500 CD-Changer)

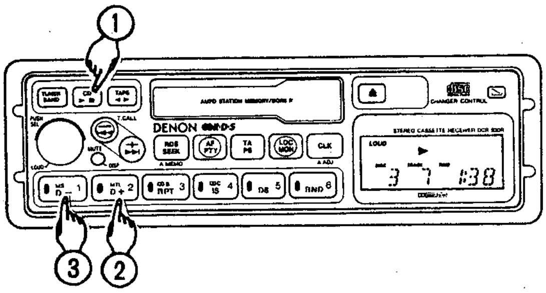


Automatically listening to traffic information announcements while using the CD changer

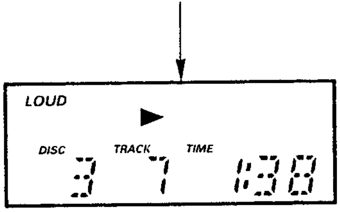
1 Press the TUNER BAND button and select FM1, FM2 or FM3.
2 Press the TA PS button. "TA" appears on the display.
3 Press the RDS SEEK button.
4 Tuning automatically stops at an RDS station broadcasting traffic information and "TP" appears on the display.
5 Press the CD button.
6 Use control knob to adjust the volume of the CD changer.
- When the traffic information announcement starts, CD play is set to the pause condition and the set automatically switches to the traffic information.

[U.S.A Version]

CD Changer Operation (Please connect DCH-700/500)



The display on the LCD reads as follows:



1 [CD ▶■] CD PLAY/STOP BUTTON
Pushing this button will start the CD play.
The "▶" sign and the currently playing disc number, track number and track time will be displayed on the display.
Pushing this button once again will stop the CD play.

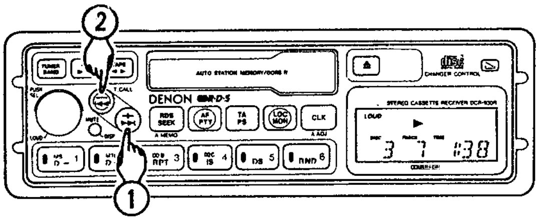
Disc Change

2 Pushing the [D+ 2] button will advance the unit to the next disc and start the play from the first track.

3 Pushing the [D− 1] button will return the unit to the previous disc and start the play from the first track. The number of the changed disc is displayed on the display.

Searching for the Desired Track

(1) Automatic Search

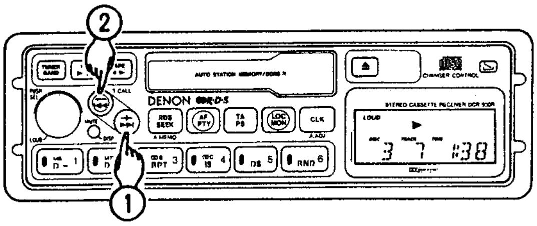


1 Pushing the ⊕ button will find the beginning of the next song and resume play.

2 Pushing the ⊖ button will return to the beginning of the song in play, and resume play.

- The track numbers of the songs being searched will be displayed on the display.
- Note that the manual search mode is set if the ⊕ or ⊖ button is pressed for more than two seconds.

(2) Manual Search

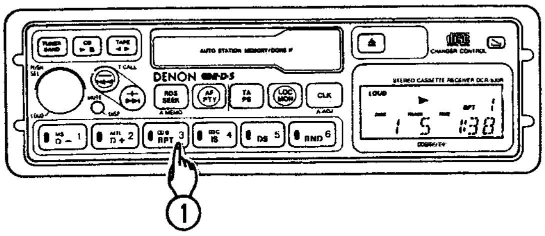


1 Continuing to push the ⊕ up button for more than 2 seconds, will fast forward the disc.

2 Continuing to push the ⊖ down button for more than 2 seconds, will fast reverse the disc.
At this time the sound can be heard at a lower volume than during regular playback.

Repeat Play

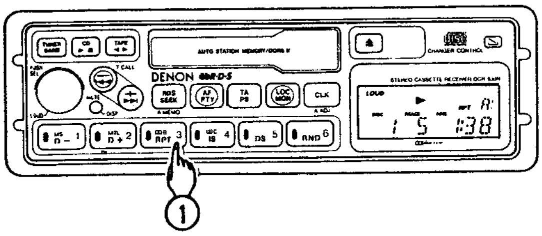
(1) One track


DENON
RDS SEEK
AF PTY
TA PS
LOC MON
CLK
RPT 3
1 5 1:38
①

1 Press the RPT 3 button once. "RPT 1" appears on the display, and the track which is currently playing is played repeatedly. Use this to play a single track repeatedly.

- To cancel the repeat function, either press the RPT 3 button twice, or press another CD changer control button.

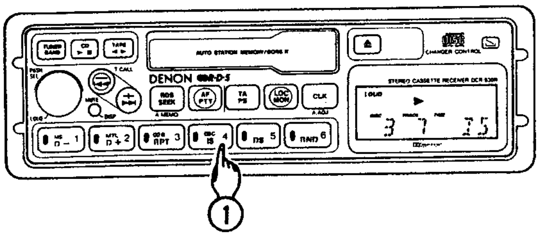
(2) One disc


DENON
RDS SEEK
AF PTY
TA PS
LOC MON
CLK
RPT 3
1 5 1:38
①

1 Press the RPT 3 button twice. "RPT A" appears on the display, and the entire disc which is currently playing is played repeatedly.
Use this to play a single CD repeatedly.

- To cancel the repeat function, either press the RPT 3 button once, or press another CD changer control button.

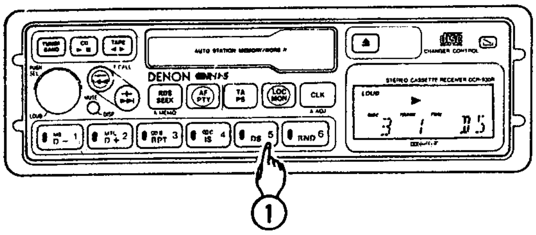
Intro Scan


DENON
RDS SEEK
AF PTY
TA PS
LOC MON
CLK
IS 4
①

1 Press the IS 4 button. "IS" appears on the display, and the first 10 seconds of each track is played.
Use this to search for a certain track.

- To stop the intro scan function, either press the IS 4 button again, or press another CD changer control button.

Disc Scan


DENON
RDS SEEK
AF PTY
TA PS
LOC MON
CLK
DS 5
①

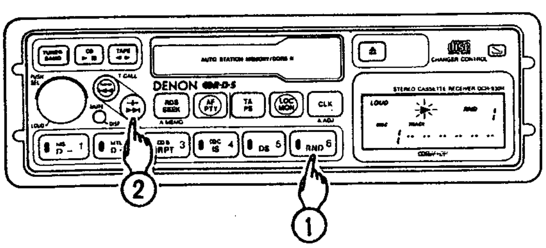
1 Press the DS 5 button. "DS" appears on the display, and the first 10 seconds of each disc (the first track) is played.
Use this to search for a certain disc.

- To stop the disc scan function, either press the DS 5 button again, or press another CD changer control button.

(U.S.A Version)

Random Play

(1) One disc

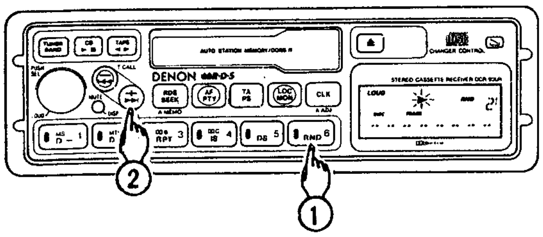


1 Press the [RND 6] button once. "RND 1" appears on the display, and the tracks on the disc which is currently playing are played in random order.

2 When the button is pressed, a track selected randomly starts playing.

- To cancel the random play function, either press the [RND 6] button twice, or press another CD changer control button.

(2) All discs

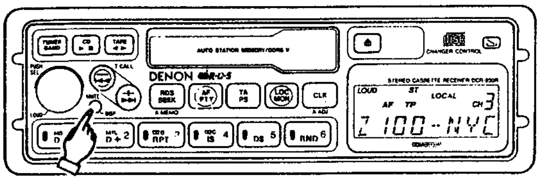


1 Press the [RND 6] button twice. "RND 2" appears on the display, and all the tracks on all the discs are played in random order.

2 When the button is pressed, a randomly selected track on a randomly selected disc starts playing.

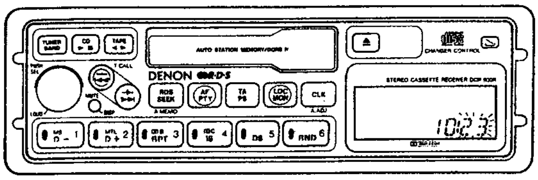
- To cancel the random play function, either press the [RND 6] button once, or press another CD changer control button.

Mute Function



Press the MUTE button causes muting, reducing the sound volume. "MUTE" flashes on the display when the MUTING button is pressed. Pressing the button again cancels the display.

Time Adjustment



Time display: Pressing the [CLK] button provides a time display for about 5 seconds.

1. **Automatic adjustment**

1) Press the [TUNER BAND] button and select FM1, FM2 or FM3.
2) Press the [RDS SEEK] button.
3) Tune in an RDS station.
4) Press the [CLK] button for at least two seconds. The time is automatically adjusted.

- The time can only be adjusted automatically when an RDS station offering the CT service is tuned in. "NO A CLK" is displayed on the LCD if the time cannot be adjusted automatically because no CT code is being received.
- Some RDS stations do not offer the CT service.
- Automatic adjustment may not be possible when reception is poor due to the inability to receive the CT code.
- To use the automatic clock adjustment function, the unit has to be tuned to an RDS radio station for an average of 30 seconds before using this feature.

2. **Manual adjustment**

1) Switch off the unit with the [TUNER BAND] button to press for more than 2 seconds.
2) Press the [CLK] button for 2 seconds or longer. The Hour display will flash and the time adjustment mode will be set.
3) Adjust the Hour setting with the buttons.
4) Press the [RDS SEEK] button. The Minute display will flash and the minute adjustment mode will be set.
5) Adjust the Minute setting with the buttons.
6) Press the [CLK] button again. The time will start advancing from the adjusted time setting.

Note:

- The time is displayed with a 12-hour display; there is no A.M. or P.M. indication.
- The time cannot be adjusted manually when the set is operating.

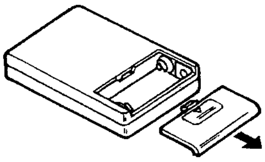
(U.S.A Version)

• WIRELESS REMOTE CONTROL (OPTION)

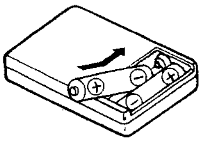
The accessory remote control unit RC-436 is used to control DCR-930R from a distance.

1. Loading the Dry Cell Batteries

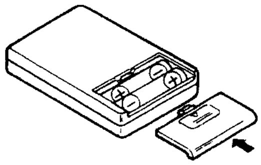
(1) Remove the rear cover on the remote control unit.



(2) Load two R03 (standard size AAA) dry cell batteries as shown in the diagram inside the battery compartment.



(3) Replace the rear cover.

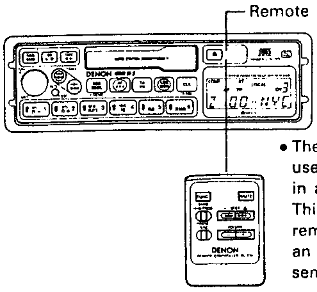


Battery Precautions

- The remote control unit uses R03 (standard size AAA) dry cell batteries.
- The batteries will need to be replaced approximately once a year. This will depend upon how often the remote control is used.
- If the remote control will not operate the In-dash player even if held at very close distance, exhausted batteries may be suspected. Replace the batteries with new ones.
- Load the batteries properly according to the illustration inside the battery compartment. Align the battery polarity (+ and –) correctly.
- Batteries are prone to damage and may start to leak. Therefore:
  - Do not combine new batteries with used ones.
  - Do not combine different types of batteries.
  - Do not jumper the opposite poles of the batteries, expose them to heat or break them open.
  - Do not dispose of used batteries in open fire. Obey local regulations on battery disposal.
- When the remote control is not to be used for a long period of time, remove the batteries from the unit.
- If the batteries have leaked, remove any battery fluid from the inside the battery compartment by wiping it out thoroughly. Then load new batteries.

2. Directions for use

- Operate the remote control unit while pointing it at the remote sensor on DCR-930R, as shown in the diagram below.



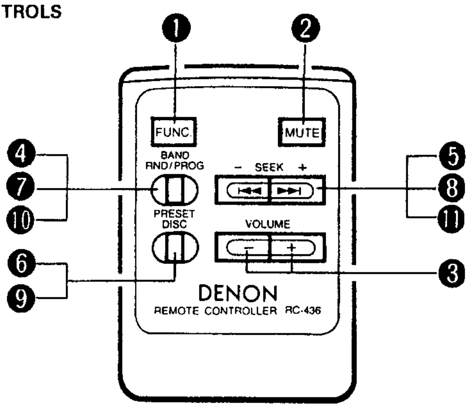
• The remote control unit can be used at a distance up to 6 meters in a straight line from DCR-930R. This distance decreases when the remote control unit is operated at an angle from the remote control sensor.

- Point the remote control unit at the remote control sensor when operating it. DCR-930R may not function if there are obstacles between remote control unit and the remote control sensor, so operate the remote control unit from directly in front of DCR-930R.

Operation Precautions

- Do not press the operation buttons on DCR-930R and the remote control at the same time. This will cause miss operation.
- Remote control operation may be impaired if the Remote Sensor on DCR-930R player is exposed to strong light (for example, direct sunlight)

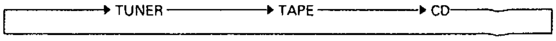
3. CONTROLS



• MAIN CONTROL

❶ FUNCTION button

This button permits switching between tuner, TAPE and CD.



Pressing this button when DCR-930R is off will switch on the tuner. This switch does not have an off function.

❷ MUTE button

Pressing this switch causes muting, reducing the sound volume. "MUTE" flashes on the display when the MUTE button is pressed. Pressing the button again cancels the display.

❸ VOLUME button

Press the + button to increase the volume.

Press the − button to decrease the volume.

(U.S.A Version)

• RADIO CONTROL

④ BAND SELECT button

This button changes the band. (See Page 11.)

⑤ SEEK TUNING button

⏭ button and ⏮ button provide seek tuning in the direction of a higher frequency and a lower frequency, respectively. (See Page 11.)

⑥ PRESET button

This button changes the channels (CH) of the preset memory. This button changes the channels in the order of CH 1 → CH 2 → CH 3···

• CD CONTROL

⑦ RANDOM button

Pressing this button provides random playback.
Each press of this button advances the changer in the sequence of RND 1 → RND 2 → Normal Play (OFF). (See Page 32.)

⑧ AUTOMATIC SEARCH button

Pressing the ⏭ button provides an automatic search to the next track, whereas pressing the ⏮ button provides an automatic search to the beginning of the track currently being played.

⑨ DISC CHANGE button

Pressing this button changes the disc in the direction of a larger disc number.

• TAPE CONTROL

⑩ PROGRAM button

Press the BAND RND/PROG button for auto reverse. (See Page 10.)

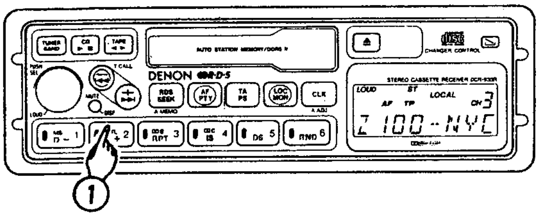
⑪ FF & Rewind button

1) Press the ⏮ rewind button to return to the beginning of the current selection.
2) Press the ⏭ fast-forward button to move to the beginning of the following selection.

Notes:

- The remote control unit will function from a distance of approximately 6 meters directly in front of the remote sensor.
- The distance from which the remote control unit will function will decrease if it is operated from an angle.
- The remote control unit may not function if there is an obstacle between it and the remote sensor.
- The distance from which the remote control unit will function will decrease if the batteries are worn.

Reset Switch



1 Reset Function
Press the reset switch using the tip of a ball-point pen, etc., when the power supply is first connected or when the display malfunctions due to external interference.

NOTES:

- Everything stored in the memory, including the stations stored at preset channels M1 to M6, is cleared when the reset switch is pressed. The time is also reset to 12:00.
- Do not press the reset switch with a sharp object, such as a metal pin.
- If the problem persists after the reset switch is pressed, contact your Denon dealer or a local Denon service center.

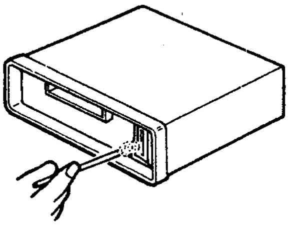
Error Displays

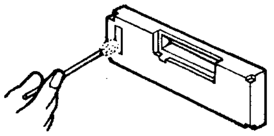
With the DCH-700/500 connected, if any of the following error displays are shown on the display when the unit is operated, carry out the measure indicated in the table.

Error display	Cause of error	Measure
NO MAG.	The disc magazine is not inserted in the changer.	Insert a disc magazine that has been loaded with discs into the changer.
NO DISC	Discs are not loaded in the disc magazine.	Remove the disc magazine and load the discs.
ERROR	The DCH-700/500 does not operate for some reason.	Push the DCR-930R reset switch
HOT	The temperature protection circuit of the DCH-700/500 has operated.	Wait until the temperature drops.
DISC REV	All of the discs in the magazine are upside-down or dirty.	Set the discs properly or wipe off the dirt.

(U.S.A Version)

Cleaning

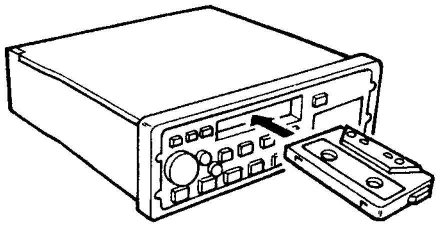




There may be a poor connection at the connector on the panel or on the set if the unit is frequently detached. Periodically wipe the connectors with a cotton swab moistened with alcohol.

* Always turn the car's accessory power supply off when cleaning.

Cleaning the tape head



When playback sound begins to deteriorate, it is time to clean the playback head. Insert a special head cleaning cassette into the tape-loading slot and allow it to run for a few minutes to remove any foreign matter.

For replacement contact your DENON dealer or local DENON service center.

SPECIFICATIONS

FM TUNER

• **Mono Usable Sensitivity**	14.8 dBf 1 µV (75 ohms)
• **50 dB Quieting Sensitivity**	20.3 dBf 2.8 µV (75 ohms)
• **Alternate Channel Selectivity**	100 dB
• **S/N (Signal to Noise Ratio)**	70 dB
• **Stereo Separation**	40 dB at 1 kHz
• **Capture Ratio**	2.5 dB
• **Image Rejection**	70 dB
• **IF Rejection**	120 dB

AM TUNER

• **Sensitivity**	30 µV (S/N 20 dB)

TAPE

• **Wow and Flutter**	0.09% WRMS
• **Stereo Separation**	37 dB at 1 kHz
• **S/N (Signal to Noise Ratio)**	72 dB (Dolby C NR)**
• **Frequency Response**	
– with METAL/CrO$_2$/FeCr (70 µS tape)	30 Hz to 18 kHz ±3 dB
– with NORMAL (120 µS tape)	30 Hz to 16 kHz ±3 dB

GENERAL

• **Power Output** *1	14 W x 4 ch at 1 kHz with 10% THD
• **Power Output** *2	10 W x 4 ch from 40 Hz to 20 kHz with 1% THD
• **Output Voltage – Pre-amp level**	1 V/10 k ohms
• **Bass**	±12 dB at 40 Hz
• **Treble**	±12 dB at 15 kHz
• **Loudness (Vol. –30 dB)**	+8 dB at 100 Hz +8 dB at 10 kHz
• **Remote Output**	12 V 500 mA max.
• **Power Antenna Output**	12 V 500 mA max.
• **Chassis Size (W x H x D)**	178 mm x 50 mm x 172 mm (7-1/64" x 2" x 6-25/32")
• **Panel Size (W x H x D)**	187 mm x 59 mm x 23 mm (7-23/64" x 2-21/64" x 29/32")
• **Weight**	1.8 kg (4 lbs)

*1 Power Output is per channel minimum continuous average power into 4 ohms, both channels driven, at 1 kHz, with no more than 10% total harmonic distortion.

*2 Power Output is per channel minimum continuous average power into 4 ohms, both channels driven from 40 Hz to 20 kHz, with no more than 1% total harmonic distortion.

Design and specifications are subject to change for improvement without prior notice.

(Europe Version)

Please carefully read all safety and operating instructions before installation and use.
It will help you to obtain the best performances from your new Cassette Receiver.

FEATURES

Power: (Both Channels Driven)

20 W × 4 ch	1 kHz/4 ohms (MAX)	
14 W × 4 ch	1 kHz/4 ohms	10% THD
10 W × 4 ch	20 Hz – 20 kHz/4 ohms	0.8% THD

- Detachable Front Panel.
- RDS (PS, PTY, AF, PI, TA, TP, EON, CT).
- 30 Station-presets (18 FM – 12 MW (LW)).
- Denon Optimum Reception System IV (FM circuitry-Auto high blend and FM pulse noise canceller).
- Feather touch Full-Logic control deck.
- Dual azimuth tape head.
- Dolby B&C NR**.
- Automatic Memory System.
- Radio on during FF & REW.
- Super hard permalloy head.
- Flexible fader-internal front amp to rear amp and/or internal front amp to internal rear amp.
- Auto reverse cassette mechanism.
- Up/Down manual & seek tuning.
- Music sensor (1).
- Stereo/mono (FM), local switches.
- Metal tape switch.
- Preset scan.
- Night illumination with dash light dimmer lead.
- Power antenna control lead.
- DIN "E" with Easy Installation Lock in sleeve.
- DIN "E" & ISO mount.
- CD changer control.
  - Disc/Intro Scan
  - Repeat play (Disc & Track)
  - 2-Mode random play
  - Automatic/Manual search
- Wireless Remote Control (Option)
- Quartz Clock
- Muting Switch

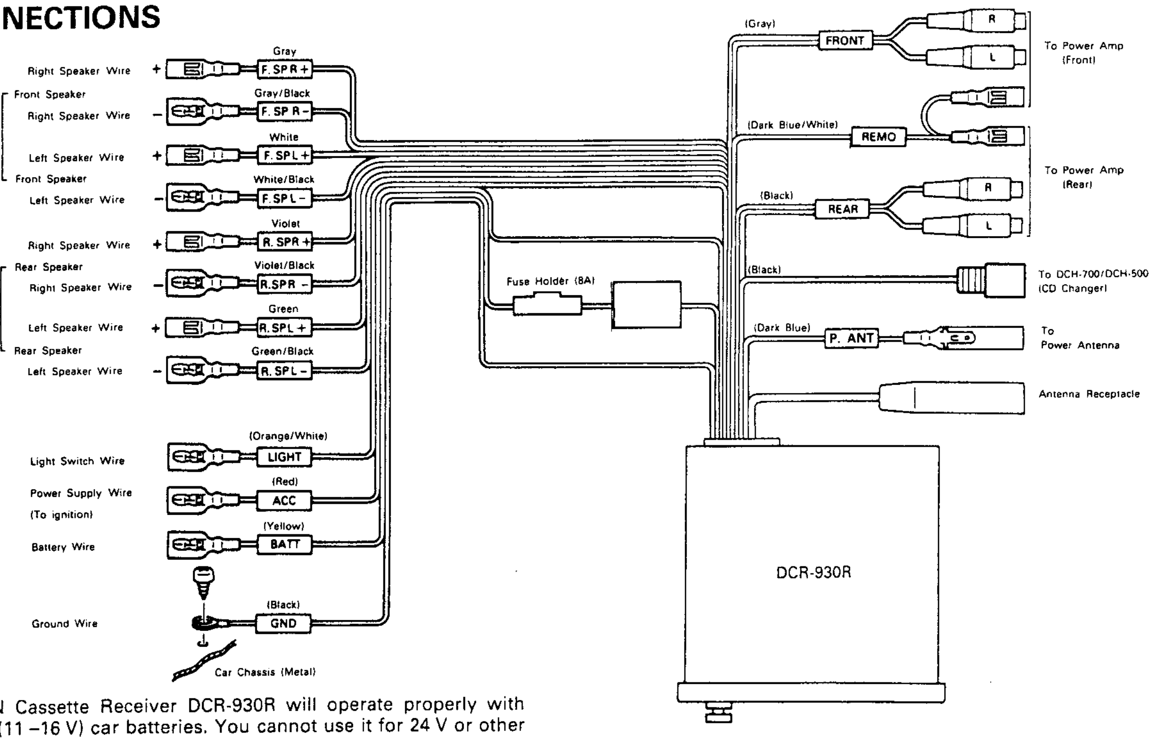
** Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

FOR YOUR RECORDS

Please record the serial number of your unit in the space provided below and keep it as a permanent record. The serial number is indicated on the top of the unit.
You will need the serial number, if the need for service should arise.

Model DCR-930R
Serial Number ____________________

CONNECTIONS


Right Speaker Wire
Front Speaker
Right Speaker Wire
Left Speaker Wire
Front Speaker
Left Speaker Wire
Right Speaker Wire
Rear Speaker
Right Speaker Wire
Left Speaker Wire
Rear Speaker
Left Speaker Wire
+
−
Gray
F. SPR +
Gray/Black
F. SP R −
White
F. SPL +
White/Black
F. SPL −
Violet
R. SPR +
Violet/Black
R.SPR −
Green
R. SPL +
Green/Black
R. SPL −
Light Switch Wire
(Orange/White)
LIGHT
Power Supply Wire
(To ignition)
(Red)
ACC
Battery Wire
(Yellow)
BATT
Ground Wire
(Black)
GND
Car Chassis (Metal)
Fuse Holder (8A)
(Gray)
FRONT
R
L
To Power Amp
(Front)
(Dark Blue/White)
REMO
To Power Amp
(Rear)
(Black)
REAR
(Black)
To DCH-700/DCH-500
(CD Changer)
(Dark Blue)
P. ANT
To
Power Antenna
Antenna Receptacle
DCR-930R

DENON Cassette Receiver DCR-930R will operate properly with 14.4 V (11 –16 V) car batteries. You cannot use it for 24 V or other types or car batteries.
Maximum rated current capacity from Remote output and the Power antenna output is 500 mA.

* Do not use the remote output as the power supply for other sets (for example, power amplifiers, RF modulators, etc.). Connect the remote output to the power amplifier's control terminal (remote).

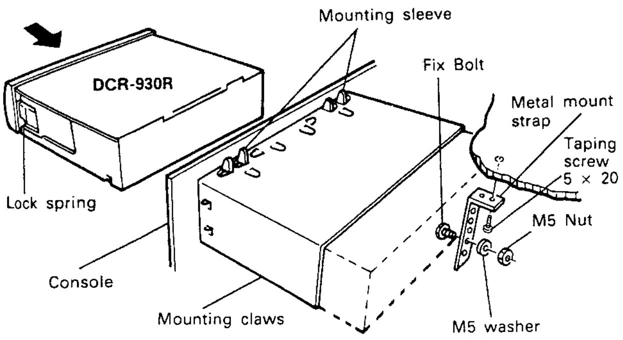
CAUTION! – To prevent damage to the unit.
DO NOT connect the (–) (negative) loudspeaker lead to the ground (chassis) or to any other (–) loudspeaker lead from this unit.

* Only connect the set after connecting all the connector wires.

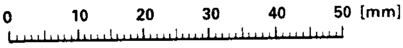
(Europe Version)

INSTALLATION

- Use screws supplied as accessories when installing the unit.


Mounting sleeve
Fix Bolt
DCR-930R
Metal mount strap
Taping screw 5 × 20
M5 Nut
Lock spring
Console
Mounting claws
M5 washer

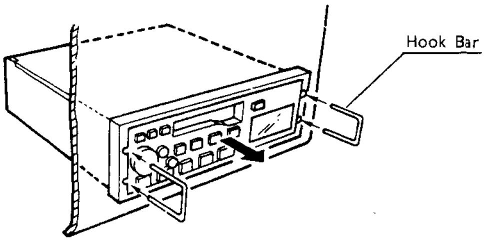
1. Insert the mounting sleeve in the console or dashboard then fasten it to the console with the mounting claws.
2. Insert the unit into the mounting sleeve then check that it is fastened to the mounting sleeve with the lock springs on either side.
3. Fasten the back of the unit to part of the vehicle using the metal mounting strap.


0
10
20
30
40
50 [mm]

ACCESSORIES

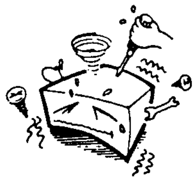
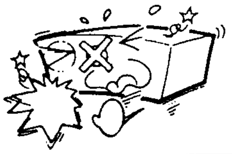
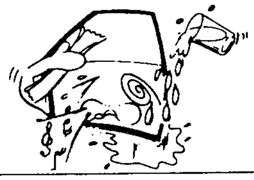
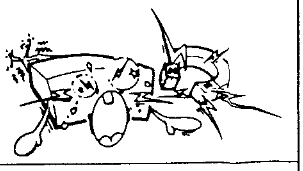
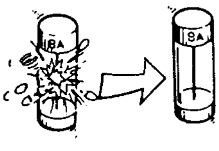
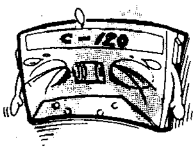
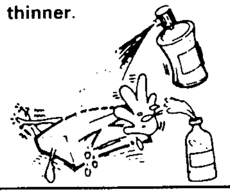
No.	Part name	Q'ty
①	Hook Bar	2
②	M5 Washer	1
③	Tapping Screw 5×20	1
④	M5 Nut	1
⑤	Fix. Bolt	1
⑥	Metal Mount Strap	1
⑦	16P-Wire Ass'y	1
⑧	Carry Case	1

- **To remove the unit**



1. Remove the metal mounting strap fastening the back of the unit from the unit.
2. Insert the Hook Bar into the hole in the panel and pull the unit out.

For safety, heed the following cautions. Failure to do so can lead to accidents and damage to the unit:

Do not disassemble. 	**Do not subject to strong shocks.** 	**Do not let the unit get wet.** 	**Keep away from strong magnetic forces.** 
Replace the fuse with a fuse of the same amperage. 	**Do not use C-120 type tapes.** 	**Do not wipe with benzene or thinner.** 	

Precautions

- The entire preset memory is cleared if the battery cord is disconnected when replacing the battery, etc.
  The time is also reset to 12:00.

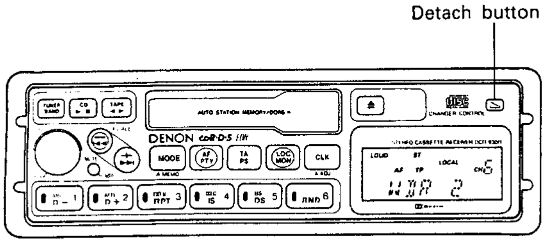
(Europe Version)

Using the Removable Front Panel

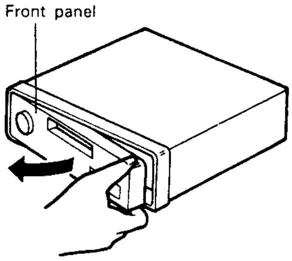
The front panel of this unit can be removed to prevent theft.

Detaching the Front Panel

1. Press button ▭ , and the right-hand side of the panel will eject.

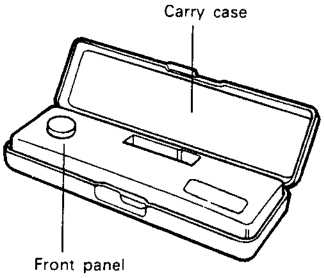


2. To remove the front panel, pull its right-hand side toward you.



- Take care not to put pressure on the display or drop the front panel.

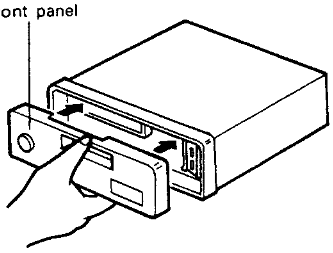
3. Enclose the front panel in the supplied carry case for safekeeping.



Replacing the Front Panel

Push the front panel into the main body.

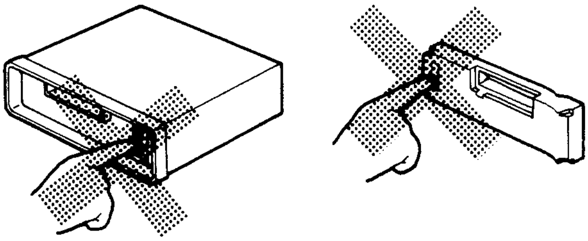
- When replacing the front panel, do not put pressure on the display or control buttons.



- Note that if the front panel is not attached correctly, pushing button ▭ may not release the panel, and the other control buttons may not function.

Precautions

- Do not touch the contacts on the front panel or on the unit body, since this may result in poor electrical contact. If dirt or other foreign substances get on the contacts, wipe them with a clean, dry cloth.

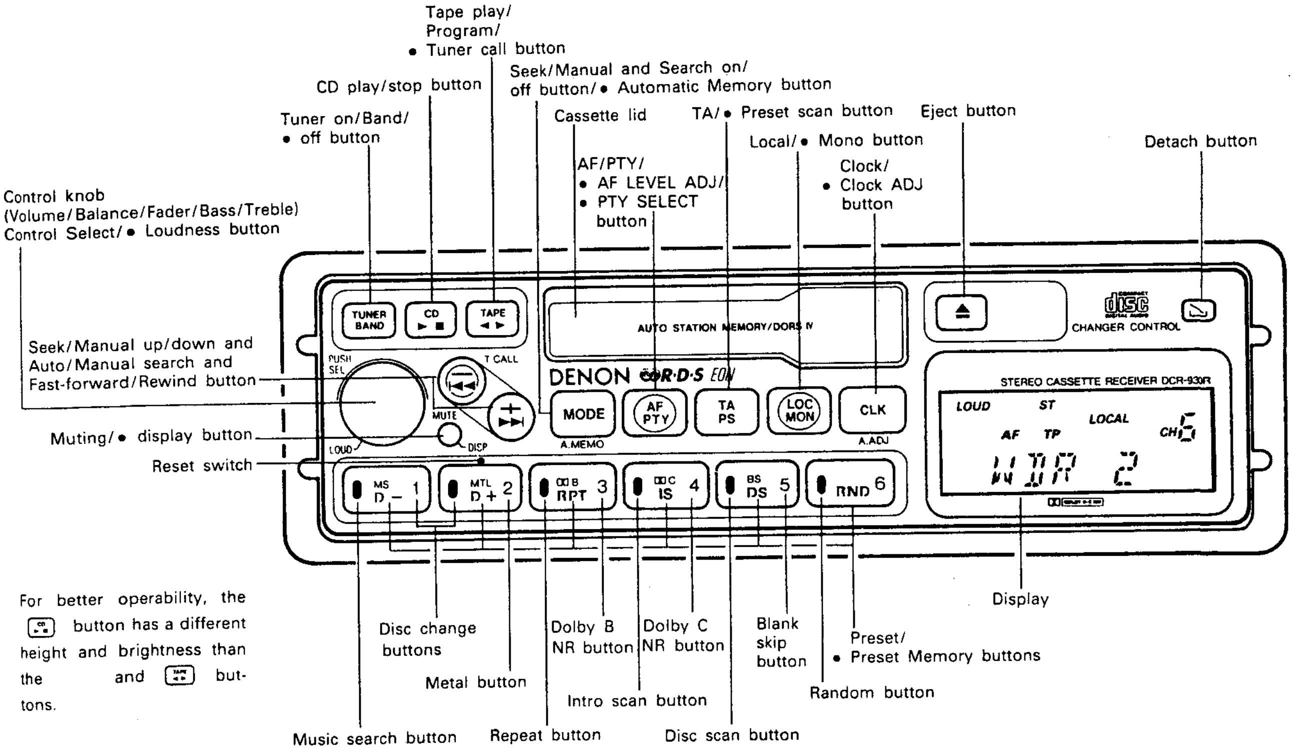


Precautions When Handling the Front Panel

- Do not leave the front panel in any area exposed to high temperatures or direct sunlight.
- Do not drop the front panel or otherwise subject it to strong impact.
- Do not allow such volatile agents as benzine, thinner, or insecticides to come into contact with the surface of the front panel.
- Never try to disassemble the front panel.

(Europe Version)

CONTROLS & INDICATORS


Tape play/
Program/
● Tuner call button
Seek/Manual and Search on/
off button/● Automatic Memory button
CD play/stop button
Tuner on/Band/
● off button
Cassette lid
TA/● Preset scan button
Eject button
Local/● Mono button
Detach button
AF/PTY/
● AF LEVEL ADJ/
● PTY SELECT
button
Clock/
● Clock ADJ
button
Control knob
(Volume/Balance/Fader/Bass/Treble)
Control Select/● Loudness button
Seek/Manual up/down and
Auto/Manual search and
Fast-forward/Rewind button
Muting/● display button
Reset switch
TUNER BAND
CD
TAPE
PUSH SEL
T CALL
MUTE
LOUD
DISP
AUTO STATION MEMORY/DORS IV
DENON RDS EON
MODE
A.MEMO
AF PTY
TA PS
LOC MON
CLK
A.ADJ
CHANGER CONTROL
STEREO CASSETTE RECEIVER DCR-930R
LOUD
ST
LOCAL
AF
TP
CH5
WDR 2
MS D− 1
MTL D+ 2
B RPT 3
C IS 4
BS DS 5
RND 6
Display
Disc change
buttons
Dolby B
NR button
Dolby C
NR button
Blank
skip
button
Preset/
● Preset Memory buttons
Metal button
Intro scan button
Random button
Music search button
Repeat button
Disc scan button

For better operability, the CD button has a different height and brightness than the and TAPE buttons.

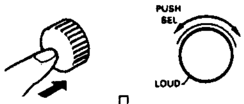
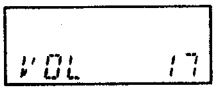
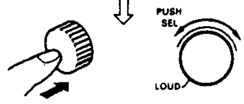
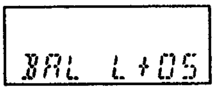
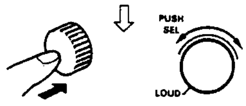
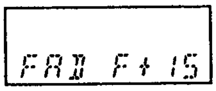
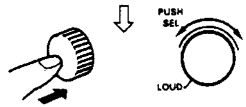
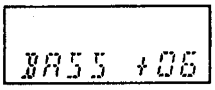
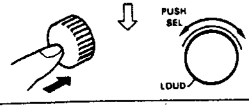
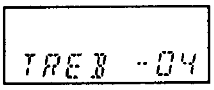
To use the functions marked "●", press the button for over two seconds.

Control knob operation

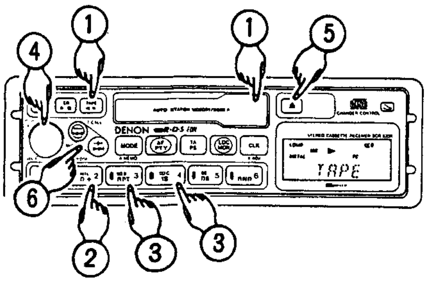
- The control knob normally adjusts the volume when turned. Press the control knob to switch the adjustment mode in the following order:

  → Volume → Balance → Fader → Bass → Treble →

- The control knob returns to the volume adjust mode five seconds after the last adjustment has been made.

Turn.	Display examples	Mode	Operation
		Volume	● Turn the knob clockwise to increase the volume, counterclockwise to decrease the volume.
		Balance	● Turn the knob clockwise to shift the balance to the right side, counterclockwise to shift the balance to the left side.
		Fader	● Turn the knob clockwise to shift the balance to the front side, counterclockwise to shift the balance to the rear side.
		Bass	● Turn the knob clockwise to increase the bass, counterclockwise to decrease the bass.
		Treble	● Turn the knob clockwise to increase the treble, counterclockwise to decrease the treble.
Press (for at least two seconds). 		Loudness	● When this button is pressed for more than 2 seconds, the bass and treble are emphasized, making for a more powerful sound. This can be used to make the sound more listenable at low volume levels.

Listening to Cassette Tapes

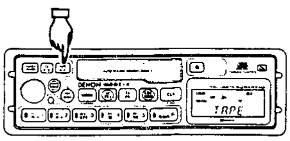

①
①
④
⑤
⑥
②
③
③
DENON
TAPE

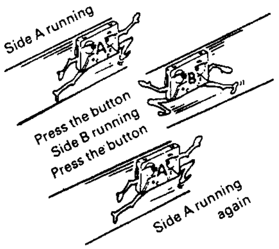
1 Insert the cassette tape. (If a cassette tape is loaded, press the [TAPE] button.) "TAPE" will be indicated on the display.
2 When using metal tapes, press the [MTL 2] button. "METAL" appears on the display.
3 Press the [RPT 3] button when listening to tapes recorded in Dolby B, the [TS 4] button when listening to tapes recorded in Dolby C.
"ᗡᗞ B" or "ᗡᗞ C" appears on the display.
4 Adjust the volume knob to the desired volume.
5 Press the eject button to eject the cassette tape.
6 Press the ⊕ button to fast-forward the tape, the following will appear on the display.
"▷ (flash)" for fast-forward in the forward direction.
"◁ (flash)" for fast-forward in the reverse direction.
Press the ⊜ button to rewind the tape, the following will appear on the display.
"(flash) ◁ ▶" for rewind in the forward direction.
"◀ ▷ (flash)" for rewind in the reverse direction.
- Always remove the cassette tape from the unit when not in use.

Convenient Functions for Cassette Tapes

Auto Reverse Function

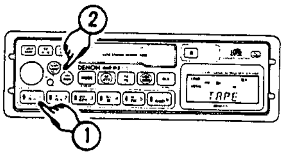
Press the [TAPE] button for auto reverse. This lets you to listen to the other side of the tape.

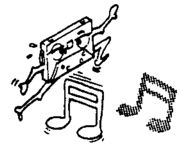



Side A running
"A"
Press the button
"B"
Side B running
Press the button
"A"
Side A running again

Search Function

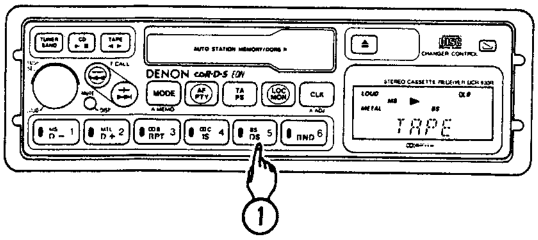
1 Press the [MS 1] button and check that "MS" appears on the display.
2 (1) Press the rewind (⊜) button to return to the beginning of the current selection.
(2) Press the fast-forward (⊕) button to move to the beginning of the following selection.


②
①
DENON
TAPE



BS (Blank Skip) Function

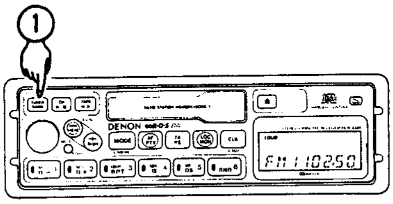
1 Press the [BS 5] button and check that "BS" appears on the display.
2 When a soundless segment of the tape lasts for more than 15 seconds, it will be advanced at high speed to the next track.
3 To stop the BS function, press the [BS 5] button again.
- Blank skip may not operate if there is excessive background noise recorded, as this will not be recognized as "soundless" even when there is more than 15 seconds between tracks.
- If there is a segment recorded at an extremely low sound level which last for more than 15 seconds. (In this situation, Blank skip should be set to "OFF."), Blank skip may operate even in the middle of a recorded track.


TUNER BAND
CD
TAPE
AUTO STATION MEMORY/DORS
CHANGER CONTROL
DENON car·D·S EON
STEREO CASSETTE RECEIVER DCR-930R
MODE
AF PTY
TA PS
LOC MON
CLK
LOUD
MS
METAL
BS
TAPE
MS D− 1
MTL D+ 2
RPT 3
TS 4
BS DS 5
RND 6
①

(Europe Version)

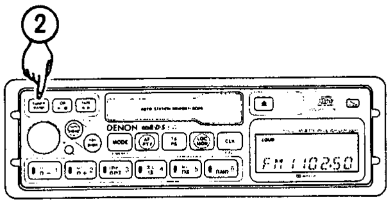
Listening to the Radio

1 Press the [TUNER BAND] button to turn the tuner on.



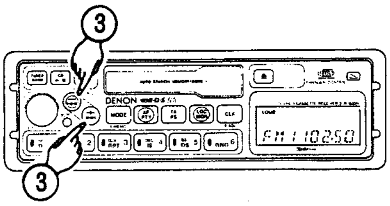
- Press the [TUNER BAND] button for at least two seconds to turn the tuner off.

2 Press the [TUNER BAND] button to select one of the FM or MW (LW) bands.



MW1 MW2
→ FM1 → FM2 → FM3 → (LW1) → (LW2)

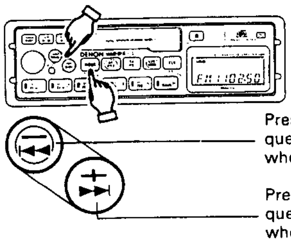
3 Use the seek buttons to set the desired frequency.
There are two ways to adjust the frequency, as explained below.



"ST" appears on the display when a stereo broadcast is received.

(1) Seek Tuning

① Press the [MODE] button and check that "SEEK" has appeared on the display.
② Use the seek buttons to adjust the frequency.



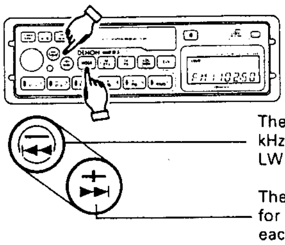
Press this button to move to lower frequencies. Tuning stops automatically when a station is found.

Press this button to move to higher frequencies. Tuning stops automatically when a station is found.

Tuning will not stop at stations whose signals are weak. To tune in such stations, use manual tuning.
Note: In the MW (LW) band, the frequency changes as follows:
→ 531 — ··· — 1620 — 153 — ··· — 279

(2) Manual Tuning

① If "SEEK" is displayed on the display, press the [MODE] button to turn it off.
② Use the seek buttons to adjust the frequency.



The frequency decreases in steps of 50 kHz for FM and 9 kHz for MW and 1 kHz for LW each time this button is pressed.

The frequency increases in steps of 50 kHz for FM and 9 kHz for MW and 1 kHz for LW each time this button is pressed.

Note: In the MW (LW) band, the frequency changes as follows:
→ 531 — ··· — 1620 — 153 — ··· — 279

Convenient Functions for the Tuner

Presetting of 18 FM Stations and 12 MW (LW) Station

18 FM stations, and 12 MW (LW) stations can be preset at buttons 1 to 6 then tuned in directly.

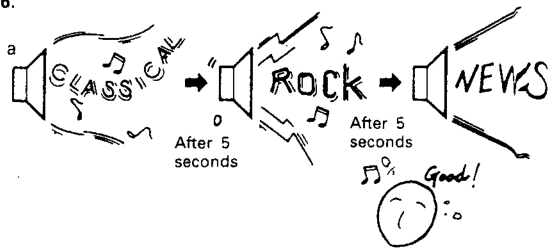
Example: Preset 102.5MHz at preset button 1 for FM1:
1 Tune in FM1 102.5MHz using the seek tuning or manual tuning method.
2 Press preset button 1 (1) and hold it in for at least two seconds.
3 After about two seconds, a "beep" is heard.
4 "CH1" appears on the display. The station is now preset in the memory.

Use this procedure to store other stations. To tune in preset stations directly, simply press the button at which the station was stored.

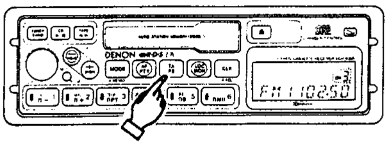
Presetting Scanning

This function lets you check the stations stored at preset buttons 1 to 6.

Example: When you have preset a classical music station, a rock station and a news station but have forgotten:



What did I store at preset buttons 1 to 6?



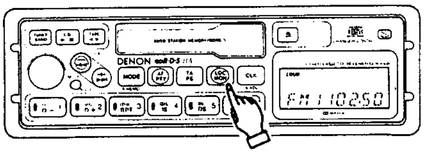
Press the [TA PS] button for at least two seconds.

The stations are received in order for 5 seconds each.

(Europe Version)

Local Function

Use this to search for only stations with strong signals when tuning in the seek mode.

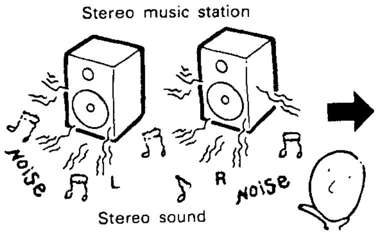


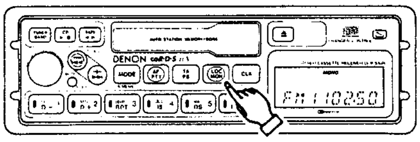
Your DENON Car Tuner is equipped with the most advanced mobile tuning circuitry available. You may also find using the LOCAL button under very high signal strength situations desirable when turning by SEEK mode.
"LOCAL" will be indicated on the display.

- Press the [LOC MON] button.

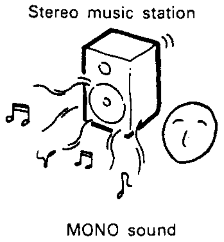
Mono Function (Auto/Mono Selection)

This function is used at the time of FM reception when the stereo broadcast is hard to hear or when there is noise interference. It changes the stereo reception to monaural.





Press the [LOC MON] button for more than 2 seconds.

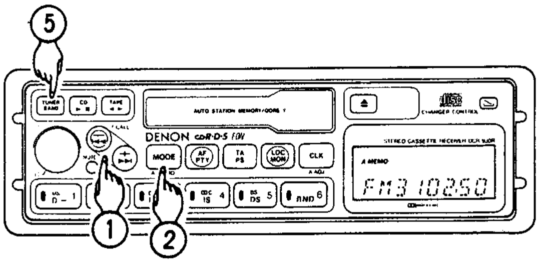


- Even when the MONO button is used, there are occasions when the sound is not improved, depending on the reception conditions.

Using the Automatic Memory System

Use this function in areas where you do not know the frequencies of stations to automatically find stations and store them at the preset buttons.
The stations are automatically stored at the FM3 and MW2 (LW2) bands, so if you store the stations you normally listen to at the FM1, FM2 and MW1 (LW1) bands, this function lets you quickly find stations in different areas without clearing the stations you normally listen to.

1 Use the ⊖ and ⊕ buttons to select the frequency from which you want to start searching.
2 Press the [MODE] button and hold it in for at least 2 seconds.
3 "A.MEMO" appears on the display. The band automatically switches to FM3 for FM, MW2 (LW2) for MW (LW), and the stations with the best reception are stored in order at preset buttons 1 to 6.
4 Once the stations with the best reception are stored for the FM3 (MW2 (LW2)) band, the "A.MEMO" indicator turns off.
5 Use the [TUNER BAND] button to switch back to the FM1, FM2 or MW1 (LW1) band.



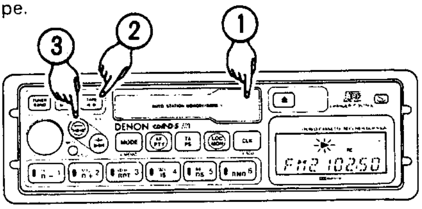
NOTE:
- Stations can also be stored manually for the FM3 and MW2 (LW2) bands. However, when the automatic memory function is used, these stations are replaced by the new stations with the best reception.
- If there are fewer than six stations with good reception, the number of the last preset button at which a station was stored is indicated on the display.
- In rare cases, it may happen that no stations are stored when the automatic memory function is used, due to poor reception conditions, etc.

(Europe Version)

Using the Radio on during FF & REW (Tuner call)

Using the Radio-on Function During the Fast Forward or Rewind Operation.

This function allows you to receive FM/MW (LW) broadcasts when you are listening to a tape and you fast forward or rewind the tape. Music will continue (from the radio) when you fast forward or rewind the tape.



1. Load the cassette tape.
2. Press the [TAPE ◄►] button for more than 2 seconds. "TC" appears on the display.
3. Press the fast forward or rewind button.
4. Select your desired braodcast station with the [TUNER BAND] button and the (−) or (+) buttons.
5. When finished fast forwarding or rewinding, the unit will play back the tape.

NOTE:

- When the radio is operating during fast forwarding or rewinding, pressing the [TAPE ◄►] button for more than 2 seconds will cancel the function which switches to the radio during fast forwarding or rewinding the tape.
- When "MS" is selected with the [1 MS] button (which means during the cuing operation), fast forwarding or rewinding will not cause a switch to the radio.

Radio Data System (RDS)

RDS is a new FM broadcasting system promoted by the Europe Broadcast Union. Inaudible control signals are transmitted with the subcarrier to automate FM reception and maximize operating ease. With RDS, the tuner can display the Program Service Name of the currently received station or search automatically for the strongest transmitter signal with the same or any specified program. These features are highly useful also for receiving traffic information or ensuring optimum reception in a car.

RDS Services

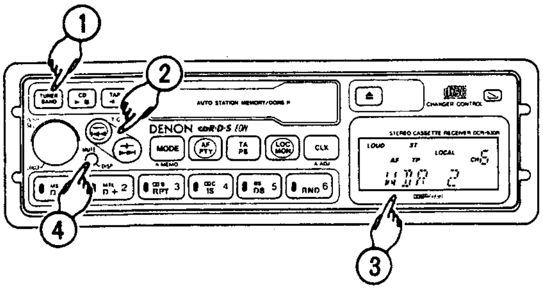
The DENON cassette receivers DCR-930R are equipped for RDS broadcast reception and offer the following features:

- **Program Service Name (PS)**
  The name of the RDS station currently received is shown on an 8-character display.
- **Program Type Identification (PTY)**
  The DCR-930R includes a PTY function that lets you select a station by specifying the type of program you want to listen to: Classics, Rock Music, etc. PTY then automatically tunes in to a station broadcasting the type of program specified. As many as 31 different user selectable program identifications are provided.
- **Alternative Frequencies (AF)**
  Some RDS stations broadcast the same radio program on different frequencies.
  When the AF function is activated, the DCR-930R will automatically seek out the stronger signal of a station whenever the signal strength changes. This feature ensures stable reception at all times.
- **Program Identification (PI)**
  The PI function permits broadcast station identification. When storing stations in the preset memory, the DCR-930R stores the PI code along with the station's frequency. When a station is then selected and its field strength is unsufficient, the unit automatically selects a station with a higher field strength (and the same PI code).
- **Traffic Announcement Identification (TA)**
  The TA function automatically selects a station which broadcasts traffic information. Even during CD or cassette playback, the DCR-930R will automatically switch to this station whenever a traffic announcement is broadcast.
- **Traffic Program Identification (TP)**
  If the station currently received is one which carries traffic information, the TP indicator on the display lights up.
- **Clock Time (CT)**
  RDS stations usually broadcasts the current time for added convenience. The CT function also lets you easily make adjustments between daylight savings time and standard time.
- **Enhanced Other Network (EON)**
  EON is a one of the new RDS services. If the station currently tuned in provides the EON service, traffic announcements broadcast by other stations can be heared while listening to current station in the TA mode. (The EON service is not offered in some areas.)

Using the RDS (Radio Data System)

- The RDS functions are for the FM band only, and will only work on stations that are broadcasting with the RDS service.
- Not all RDS stations offer all the RDS services listed on the previous page. Some RDS stations may only provide some of the RDS services..
- The RDS functions may not work properly when the reception is poor.

PS (Program Service Name) Function



Displaying the PS (Program Service Name) on the display

1 Press the (TUNER BAND) button and select FM1, FM2 or FM3.

2 Use the seek/manual up/down buttons to tune in the desired station.

3 After the frequency of the station being received appears on the display, the display switches to the PS (Program Service Name), if the station being received is an RDS station.

4 To check the frequency of the station being received, press the Q button and hold it in for two seconds. The display changes to the frequency. Three seconds later, the PS (Program Service Name) reappears. When in the PTY mode, however, the PTY code appears after the frequency is displayed before the PS reappears.

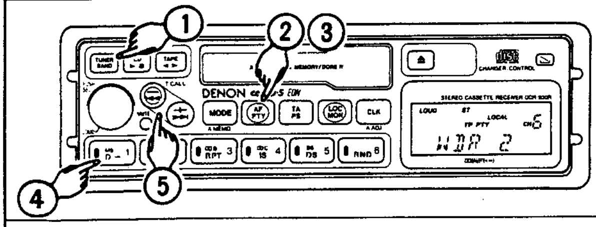
<Notes on Using the PS Function>

1) The PS (Program Service Name) is not displayed if the station being received is not an RDS station or if its signals are weak.

2) The PS (Program Service Name) is only displayed for the FM1, FM2 and FM3 bands, not for the MW1 (LW1) and MW2 (LW2) bands.

3) The PS (Program Service Name) is always displayed for the FM1, FM2 and FM3 bands.

PTY (Program Type) Function



Use this function to automatically tune an RDS station broadcasting a certain type of program.

1 Press the (TUNER BAND) button and select the FM1, FM2 or FM3.

2 Press the (AF PTY) button twice, and check that the "PTY" indicator has appeared on the display.

3 Press the (AF PTY) button for at least two seconds and check that the indicator on the display has started to flash. (The program type mode is selected.)

LOUD
ST
LOCAL
PTY
NEWS

4 Press the (n- 1) or (n+ 2) button to select the type of program.

- The program type changes each time the (n- 1) or (n+ 2) button is pressed.
- See the following page for a list of the program types which can be selected.

5 Press the ⏪ or ⏩ buttons.

6 An RDS station of the type you have selected is automatically tuned in.

- "PTY SEEK" and the selected program type are displayed alternately while a station is being tuned in.
- It is not possible to tune in stations broadcasting the type of program you have selected but not offering RDS services, or RDS stations which do not offer the PTY service. At this moment a "beep" sound is heard.

(Europe Version)

PTY (Program Type) Function

- **Tuning in RDS stations broadcasting a certain type of program using the preset buttons:**

1 Press the AF PTY button twice, and check that the "PTY" indicator has appeared on the display.

2 Use the above procedure to tune in an RDS station playing the desired type of program.

3 Press a preset button for at least two seconds to store the RDS station at that button. (Refer to Page 13.)

- The PTY code is stored in the memory along with the frequency and the station name.

4 Press the preset button. The PTY code stored in the preset memory is displayed on the display for five seconds.

- If the "PTY" indicator is not displayed on the display, the PTY code is not displayed, and the station name or frequency is displayed.

5 Press the ⊖ or ⊕ buttons.

6 An RDS station broadcasting the type of program you have selected is tuned in.

<Note on tuning in RDS stations using preset PTY codes>

If you have already entered an RDS stations in a preset memory, the unit will remember what the PTY of this station is, and will allow you to tune in another RDS station broadcasting the same PTY code.

Example: If you already have a "NEWS" station entered in preset 4, and you want to find another "NEWS" station:

1) Push AF PTY button.

2) Make sure that PTY mode is selected and shows on the display. (If it is not, push the AF/PTY button until "PTY" is shown on the display)

3) Push the ⊖ or ⊕ buttons. The unit will search for another RDS station with the "NEWS" PTY code.

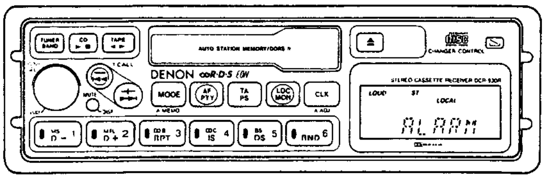
List of PTY Program Types

DISPLAY	PROGRAM TYPE	DISPLAY	PROGRAM TYPE
NO RDS*	(The station being received is not an RDS station or its signals are weak.)	SCIENCE	Science
NO PTY*	No program type	VARIED	Varied
NEWS	News	POP M	Pop Music
AFFAIRS	Current Affairs	ROCK M	Rock Music
INFO	Information	M.O.R. M	M.O.R. Music
SPORT	Sport	LIGHT M	Light Music
EDUCATE	Education	CLASSICS	Serious Classical
DRAMA	Drama	OTHER M	Other Music
CULTURE	Culture	ALARM*	Emergency

* Cannot be selected in the program type selection mode.

(Europe Version)

Emergency Program Reception Function

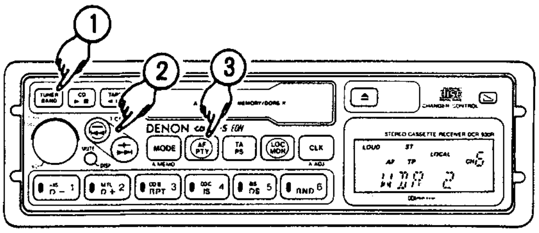

TUNER BAND
CD
TAPE
AUTO STATION MEMORY/DDRS
CHANGER CONTROL
DENON
MODE
AF PTY
TA PS
LOC MON
CLK
STEREO CASSETTE RECEIVER DCR-930R
LOUD
ST
LOCAL
ALARM
RPT
IS
DS
RND

If the RDS station being received on the FM1, FM2 or FM3 band transmits an Emergency code, "ALARM" appears on the display and a beep tone is heard.

During an emergency broadcast, the volume on the unit will turn up even if the volume knob is set to the minimum. Also, if the unit is in the Cassette, or CD mode, the unit will automatically switch to the radio, indicating an emergency. Follow the instructions being broadcast.

- This function will only work when receiving RDS stations (stations with program service names). In addition, it may not work properly if the signals of the station being received are weak.
- There are no buttons for the Emergency operation.
- This function will only work during actual emergency broadcasts, and will not work during tests of the emergency broadcast system.

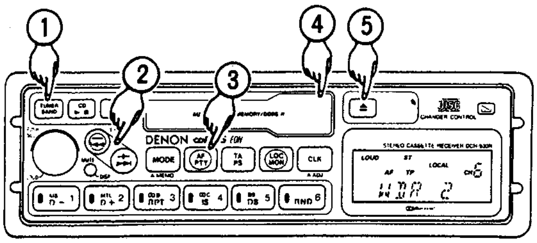
AF (Alternative Frequency) Function


①
②
③
DENON
MODE
AF PTY
TA PS
LOC MON
CLK
LOUD
ST
AF
TP
LOCAL
CH
WDR 2

To constantly receive RDS stations broadcasting the same program on multiple frequencies

1 Press the TUNER BAND button and select FM1, FM2 or FM3.
2 Press the − or + buttons to tune in the desired RDS station.
3 Press the AF PTY button until "AF" appears on the display.

- When the signal strength of the station being received becomes weak, "AF" flashes on the display, and the unit searches for another station that is broadcasting the same program based on the AF code list.
- The frequency changes if another station broadcasting the same program is found.


①
②
③
④
⑤
DENON
MODE
AF PTY
TA PS
LOC MON
CLK
LOUD
ST
AF
TP
LOCAL
CH
WDR 2

Automatically tracking stations broadcasting the same program on different frequencies while playing a cassette tape so that reception is optimized when switching back to the tuner

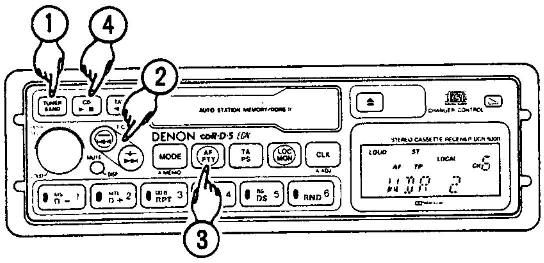
1 Press the TUNER BAND button and select FM1, FM2 or FM3.
2 Press the − or + buttons to tune in the desired RDS station.
3 Press the AF PTY button until "AF" appears on the display.
4 Insert a cassette tape.

- When the signal strength of the station being received becomes weak, "AF" flashes on the display, and the unit searches for another station that is broadcasting the same program based on the AF code list.
- The frequency changes if another station broadcasting the same program is found.

5 When the ▲ button is pressed, or if the ▲ button is pressed, the radio plays the same radio program as before, using the frequency on the AF code list with the best reception.

(Europe Version)

AF (Alternative Frequency) Function (When using the optional DCH-700/500 CD-Changer)



Automatically tracking stations broadcasting the same program on different frequencies while using the CD-changer so that reception is optimized when switching back to the tuner

1 Press the [TUNER BAND] button and select FM1, FM2 or FM3.

2 Press the ⊖ or ⊕ buttons to tune in the desired RDS station.

3 Press the [AF PTY] button until "AF" appears on the display.

4 Press the [CD ►■] button and start CD playback.

- When the signal strength of the station being received becomes weak, "AF" flashes on the display, and the unit searches for another station that is broadcasting the same program based on the AF code list.
- The frequency changes if another station broadcasting the same program is found.

5 When the [CD ►■] button is pressed, or if the [TUNER BAND] button is pressed, the radio plays the same radio program as before, using the frequency on the AF code list with the best reception.

Note: The AF function operates in the same way while playing cassettes.

AF (Alternative Frequency) Function

<Notes on Using the AF Function>

1) With the AF function, the AF button is pressed and stations broadcasting the same program as the station currently being received are searched for based on the AF list. The AF list includes stations broadcasting the same program. If no receivable station is found when the list is checked through 10 times, stations are searched for using the PI codes (codes for stations broadcasting the same program) and a beep tone is sounded. This operation is then repeated. Thus, in areas far from the broadcasting stations, the alternative frequency function may not work.

2) When presetting, both the program name, PI codes, AF list and PTY code are stored along with the station's frequency for buttons M1 to M6 on the FM band.

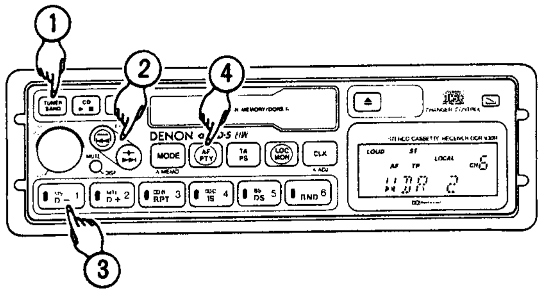
3) The sound may be interrupted once ever 10 seconds after the [AF PTY] button is pressed while the station with the best reception is being searched for based on the AF list. This is not a malfunction.

4) "AF LEV n" (n = 0 to 7) appears on the display if the [AF PTY] button is pressed for over 2 seconds. Now use the [1] and [2] buttons to change the value of "n" and the strength of the signals at which the alternative frequency function will begin operating.
The lower the value of "n", the weaker the signals of the station being received must be before the AF function begins operating.

5) "AF" flashes on the display if the signals of the station being received become weak and the data cannot be identified.

6) The AF function may not work properly for RDS stations which do not transmit AF lists.

AF (Alternative Frequency) Function/PI (Program Identification) Function



Storing the AF lists and PI codes in the preset memory

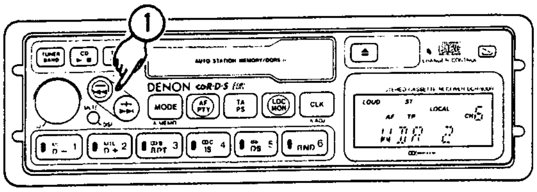
1 Press the [TUNER BAND] button and select FM1, FM2 or FM3.

2 Press the ⊖ or ⊕ buttons to tune in the desired RDS station.

3 Press the preset memory button (M1 to M6) at which you want to store that station and hold it in for at least 2 seconds.

4 Press the [AF PTY] button until "AF" appears on the display.

5 When a preset button at which the AF list or PI codes was stored is pressed, the AF or PI search operation is performed automatically. The stored broadcast stations and broadcast stations carrying the same content are searched for based on the AF list.



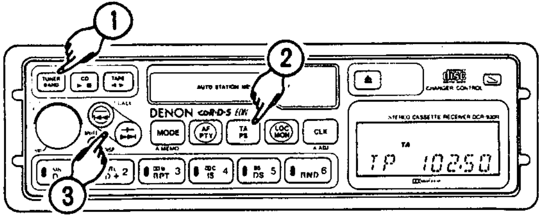
If no new broadcast station with strong signals is found when the [AF PTY] button is pressed

1 Press the ⊖ or ⊕ buttons to seek for a new RDS station.

2 Tune in an RDS station.

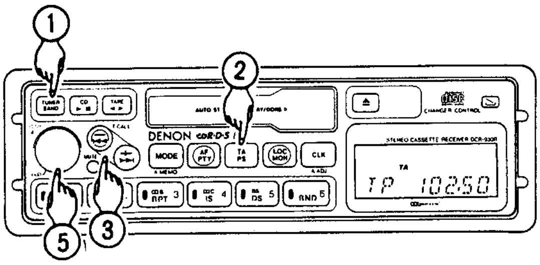
(Europe Version)

TA (Traffic Announcement) Function



Searching for TP (Traffic Program) broadcast stations automatically

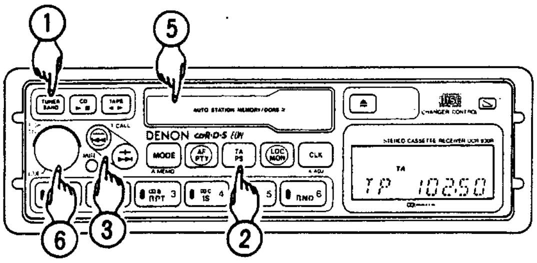
1 Press the TUNER/BAND button and select FM1, FM2 or FM3.
2 Press the TA/PS button. "TA" appears on the display.
3 Press the ⏮ or ⏭ buttons.
4 Tuning automatically stops at an RDS station brodcasting traffic information, or a station providing the EON service with which traffic information broadcast on othe station can be heard and "TP" appears on the display and the TP station is recived.



Setting the volume when a TA (traffic information announcement) starts while in standby (on FM1, FM2 or FM3)

1 Press the TUNER/BAND button and select FM1, FM2 or FM3.
2 Press the TA/PS button. "TA" appears on the display.
3 Press the ⏮ or ⏭ buttons.
4 Tuning automatically stops at an RDS station broadcasting traffic information, or a station providing the EON service with which traffic information broadcast on other stations can be heard and that station is received.
5 When a traffic announcement begins, the volume is set to the level at which it was set the last time a traffic announcement was received (the TA level). "TA VOL" appears on the display if the volume is adjusted at this time.
6 The TA level can be changed by changing the volume when traffic information is being broadcast. Also, when the next traffic information is tuned in, it is played at the previously set volume level.
7 The volume returns to the original level once the traffic announcement is over.

TA (Traffic Announcement) Function



Automatically listening to traffic information announcements while playing cassette tapes

1 Press the TUNER/BAND button and select FM1, FM2 or FM3.
2 Press the TA/PS button. "TA" appears on the display.
3 Press the ⏮ or ⏭ buttons.
4 Tuning automatically stops at an RDS station broadcasting traffic information, or a station providing the EON service with which traffic information broadcast on other stations can be heard and "TP" appears on the display.
5 Insert a cassette tape.
- If a traffic information announcement is being broadcast when the cassette tape is inserted, the tape is not played.

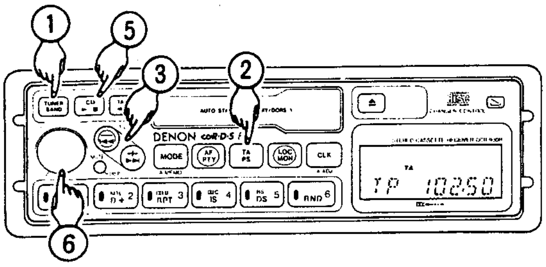
6 Use the control knob to adjust the volume of the cassette tape.
- When the traffic information announcement starts, tape play is set to the pause condition and the set automatically switches to the traffic information.

<Notes on Using the TA Function>

1) With the TA function, the TA button is pressed and stations broadcasting the same program as the station currently being received are searched for based on the AF list. The AF list includes stations broadcasting the same program. Thus, in areas far from the broadcasting stations, the alternative frequency function may not work.
2) A beep tone is sounded when the ⏮ or ⏭ buttons are pressed if there is no station broadcasting a Traffic Program or if its signals are weak. If this happens, press the TA/PS button again so that "TA" disappears from the display, then wait until entering an area in which a station broadcasting TPs can be received and press the TA/PS button again, then press the ⏮ or ⏭ buttons to tune in a traffic information station, or a station providing the EON service with which traffic information broadcast on other stations can be heard.
3) "TA" flashes on the display if the signals of the station being received become weak and the data cannot be identified.
4) Some stations broadcast TA (traffic announcement) signals even when they are not broadcasting traffic information announcements. In such cases, the TA function will not work properly.

(Europe Version)

TA (Traffic Announcement) Function (When using the optional DCH-700/500 CD-Changer)



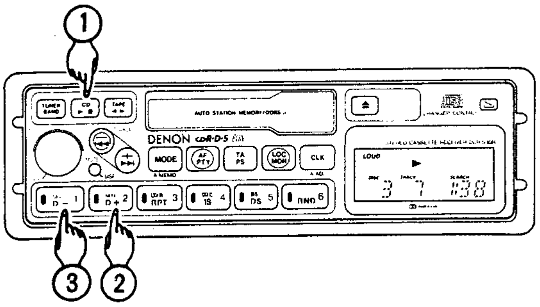
Automatically listening to traffic information announcements while using the CD changer

1 Press the TUNER BAND button and select FM1, FM2 or FM3.
2 Press the TA PS button. "TA" appears on the display.
3 Press the ◀◀ or ▶▶ buttons.
4 Tuning automatically stops at an RDS station broadcasting traffic information, or a station providing the EON service with which traffic information broadcast on other stations can be heard and "TP" appears on the display.
5 Press the CD button.
6 Use control knob to adjust the volume of the CD changer.

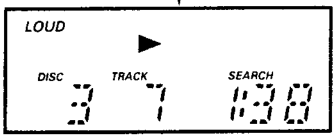
- When the traffic information announcement starts, CD play is set to the pause condition and the set automatically switches to the traffic information.

Note: The TA function operates in the same way while playing cassettes.

CD Changer Operation (Please connect DCH-700/500)



The display reads as follows:



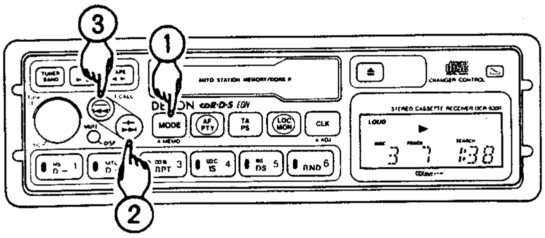
1 CD CD PLAY/STOP BUTTON
Pushing this button will start the CD play.
The "▶" sign and the currently playing disc number, track number and track time will be displayed on the display.
Pushing this button once again will stop the CD play.

Disc Change

2 Pushing the D+ 2 button will advance the unit to the next disc and start the play from the first track.
3 Pushing the D– 1 button will return the unit to the previous disc and start the play from the first track. The number of the changed disc is displayed on the display.

Searching for the Desired Track

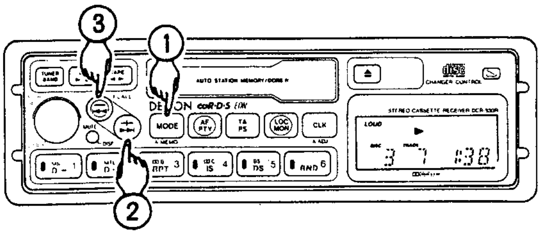
(1) Automatic Search



1 Pushing the MODE button will display "SEARCH" on the display and set the unit to the automatic search mode.
2 Pushing the ⊕ button will find the beginning of the next song and resume play.
3 Pushing the ⊖ button will return to the beginning of the song in play, and resume play.
4 Continuing to push the ⊕ (or ⊖ button) will find the beginning of the next song (or the previous song) and resume play.

- The track numbers of the songs being searched will be displayed on the display.

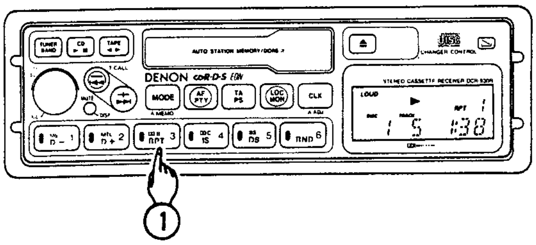
(2) Manual Search



1 Pushing the MODE button will set the manual search mode and the "SEARCH" display on the display will go out.
2 Continuing to push the ⊕ up button will fast forward the disc.
3 Continuing to push the ⊖ down button will fast reverse the disc.
At this time the sound can be heard at a lower volume than during regular playback.

Repeat Play

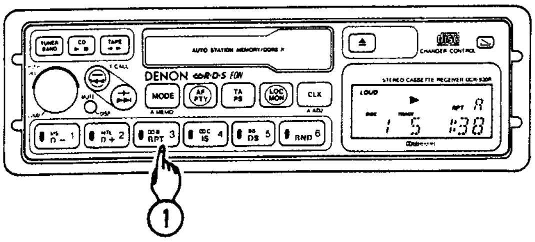
(1) One track



1 Press the RPT 3 button once. "RPT 1" appears on the display, and the track which is currently playing is played repeatedly.
Use this to play a single track repeatedly.

- To cancel the repeat function, either press the RPT 3 button twice, or press another CD changer control button.

(2) One disc

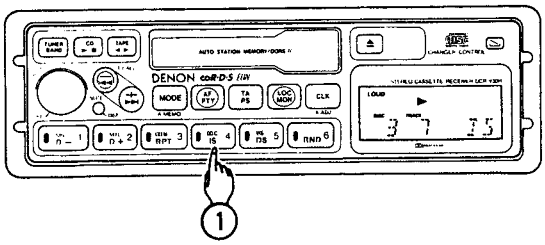


1 Press the RPT 3 button twice. "RPT A" appears on the display, and the entire disc which is currently playing is played repeatedly.
Use this to play a single CD repeatedly.

- To cancel the repeat function, either press the RPT 3 button once, or press another CD changer control button.

(Europe Version)

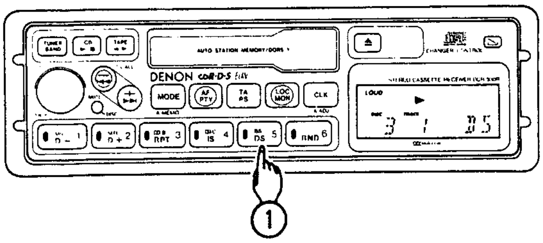
Intro Scan


TUNER BAND
CD
TAPE
DENON
MODE
AF PTY
TA PS
LOC MON
CLK
RPT 3
IS 4
DS 5
RND 6
①

1 Press the IS 4 button. "IS" appears on the display, and the first 10 seconds of each track is played. Use this to search for a certain track.

- To stop the intro scan function, either press the IS 4 button again, or press another CD changer control button.

Disc Scan

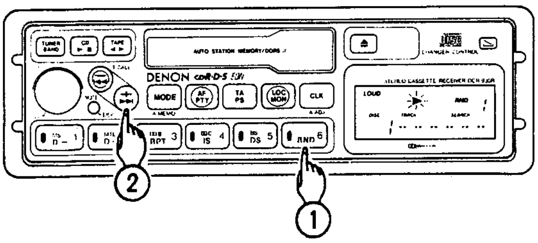

TUNER BAND
CD
TAPE
DENON
MODE
AF PTY
TA PS
LOC MON
CLK
RPT 3
IS 4
DS 5
RND 6
①

1 Press the DS 5 button. "DS" appears on the display, and the first 10 seconds of each disc (the first track) is played. Use this to search for a certain disc.

- To stop the disc scan function, either press the DS 5 button again, or press another CD changer control button.

Random Play

(1) One disc

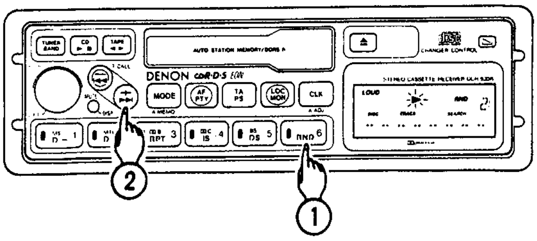

TUNER BAND
CD
TAPE
DENON
MODE
AF PTY
TA PS
LOC MON
CLK
RPT 3
IS 4
DS 5
RND 6
②
①

1 Press the RND 6 button once. "RND 1" appears on the display, and the tracks on the disc which is currently playing are played in random order.

2 To move to the next track (selected in random order) when in the middle of a track, check that "SEARCH" is displayed on the display, then press the ⏭ button.

- To cancel the random play function, either press the RND 6 button twice, or press another CD changer control button.

(2) All discs

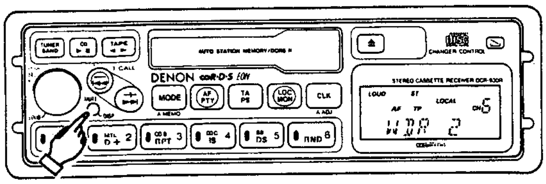

TUNER BAND
CD
TAPE
DENON
MODE
AF PTY
TA PS
LOC MON
CLK
RPT 3
IS 4
DS 5
RND 6
②
①

1 Press the RND 6 button twice. "RND 2" appears on the display, and all the tracks on all the discs are played in random order.

2 When the ⏭ button is pressed during the automatic search mode (when "SEARCH" is displayed on the display), a randomly selected track on a randomly selected disc starts playing.

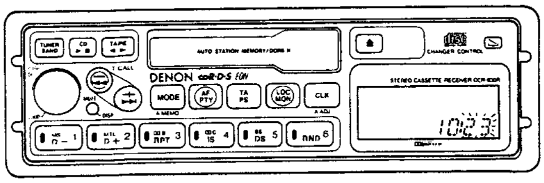
- To cancel the random play function, either press the RND 6 button once, or press another CD changer control button.

Mute Function



Press the MUTE button causes muting, reducing the sound volume. "MUTE" flashes on the display when the MUTING button is pressed. Pressing the button again cancels the display.

Time Adjustment



Time display: Pressing the CLK button provides a time display for about 5 seconds.

1. Automatic adjustment

1) Press the TUNER BAND button and select FM1, FM2 or FM3.
2) Press the ⊜ or ⊕ buttons.
3) Tune in an RDS station.
4) Press the CLK button for at least two seconds. The time is automatically adjusted.

- The time can only be adjusted automatically when an RDS station offering the CT service is tuned in. "NO A CLK" is displayed on the display if the time cannot be adjusted automatically because no CT code is being received.
- Some RDS stations do not offer the CT service.
- Automatic adjustment may not be possible when reception is poor due to the inability to receive the CT code.
- To use the automatic clock adjustment function, the unit has to be tuned to an RDS radio station for an average of 30 seconds before using this feature.

2. Manual adjustment

1) Switch off the unit with the TUNER BAND button to press for more than 2 seconds.
2) Press the CLK button for 2 seconds or longer. The Hour display will flash and the time adjustment mode will be set.
3) Adjust the Hour setting with the ⊜⊕ buttons.
4) Press the MODE button. The Minute display will flash and the minute adjustment mode will be set.
5) Adjust the Minute setting with the ⊜⊕ buttons.
6) Press the CLK button again. The time will start advancing from the adjusted time setting.

Note:

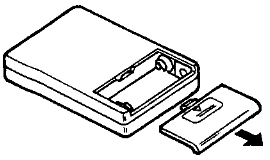
- The time is displayed with a 12-hour display; there is no A.M. or P.M. indication.
- The time cannot be adjusted manually when the set is operating.

• WIRELESS REMOTE CONTROL (OPTION)

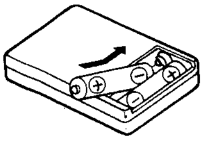
The accessory remote control unit RC-436 is used to control DCR-930R from a distance.

1. Loading the Dry Cell Batteries

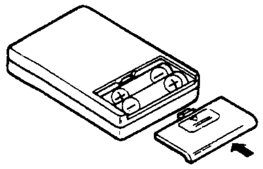
(1) Remove the rear cover on the remote control unit.



(2) Load two R03 (standard size AAA) dry cell batteries as shown in the diagram inside the battery compartment.



(3) Replace the rear cover.



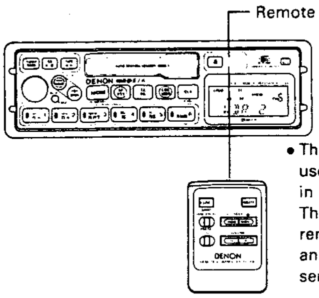
Battery Precautions

- The remote control unit uses R03 (standard size AAA) dry cell batteries.
- The batteries will need to be replaced approximately once a year. This will depend upon how often the remote control is used.
- If the remote control will not operate the In-dash player even if held at very close distance, exhausted batteries may be suspected. Replace the batteries with new ones.
- Load the batteries properly according to the illustration inside the battery compartment. Align the battery polarity (+ and −) correctly.
- Batteries are prone to damage and may start to leak. Therefore:
  - Do not combine new batteries with used ones.
  - Do not combine different types of batteries.
  - Do not jumper the opposite poles of the batteries, expose them to heat or break them open.
  - Do not dispose of used batteries in open fire. Obey local regulations on battery disposal.
- When the remote control is not to be used for a long period of time, remove the batteries from the unit.
- If the batteries have leaked, remove any battery fluid from the inside the battery compartment by wiping it out thoroughly. Then load new batteries.

(Europe Version)

2. Directions for use

- Operate the remote control unit while pointing it at the remote sensor on DCR-930R, as shown in the diagram below.



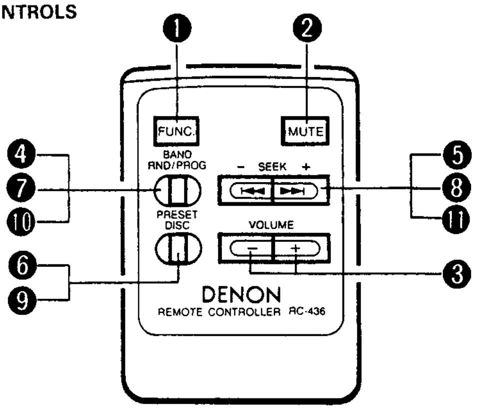
- The remote control unit can be used at a distance up to 6 meters in a straight line from DCR-930R. This distance decreases when the remote control unit is operated at an angle from the remote control sensor.

- Point the remote control unit at the remote control sensor when operating it. DCR-930R may not function if there are obstacles between remote control unit and the remote control sensor, so operate the remote control unit from directly in front of DCR-930R.

Operation Precautions

- Do not press the operation buttons on DCR-930R and the remote control at the same time. This will cause miss operation.
- Remote control operation may be impaired if the Remote Sensor on DCR-930R player is exposed to strong light (for example, direct sunlight)

3. CONTROLS



• MAIN CONTROL

❶ FUNCTION button

This button permits switching between tuner, TAPE and CD.

→ TUNER → TAPE → CD

Pressing this button when DCR-930R is off will switch on the tuner. This switch does not have an off function.

❷ MUTE button

Pressing this switch causes muting, reducing the sound volume. "MUTE" flashes on the display when the MUTE button is pressed. Pressing the button again cancels the display.

❸ VOLUME button

Press the [+] button to increase the volume.

Press the [−] button to decrease the volume.

• RADIO CONTROL

❹ BAND SELECT button

This button changes the band. (See Page 12.)

❺ SEEK TUNING button

[▶▶|] button and [|◀◀] button provide seek tuning in the direction of a higher frequency and a lower frequency, respectively. (See Page 12.)

❻ PRESET button

This button changes the channels (CH) of the preset memory. This button changes the channels in the order of CH 1 → CH 2 → CH 3···

• CD CONTROL

❼ RANDOM button

Pressing this button provides random playback.

Each press of this button advances the changer in the sequence of RND 1 → RND 2 → Normal Play (OFF). (See Page 33.)

❽ AUTOMATIC SEARCH button

Pressing the [▶▶|] button provides an automatic search to the next track, whereas pressing the [|◀◀] button provides an automatic search to the beginning of the track currently being played.

❾ DISC CHANGE button

Pressing this button changes the disc in the direction of a larger disc number.

• TAPE CONTROL

❿ PROGRAM button

Press the BAND RND·PROG [▯] button for auto reverse. (See Page 10.)

⓫ FF & Rewind button

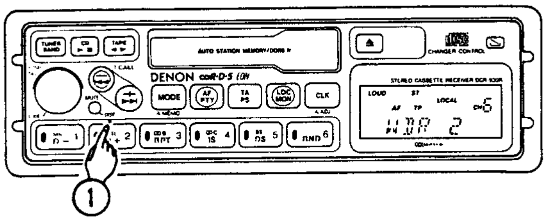
1) Press the [|◀◀] rewind button to return to the beginning of the current selection.
2) Press the [▶▶|] fast-forward button to move to the beginning of the following selection.

Notes:

- The remote control unit will function from a distance of approximately 6 meters directly in front of the remote sensor.
- The distance from which the remote control unit will function will decrease if it is operated from an angle.
- The remote control unit may not function if there is an obstacle between it and the remote sensor.
- The distance from which the remote control unit will function will decrease if the batteries are worn.

(Europe Version)

Reset Switch



1 Reset Function
Press the reset switch using the tip of a ball-point pen, etc., when the power supply is first connected or when the display malfunctions due to external interference.

NOTES:

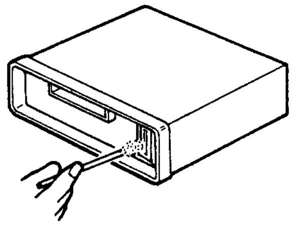
- Everything stored in the memory, including the stations stored at preset channels M1 to M6, is cleared when the reset switch is pressed. The time is also reset to 12:00.
- Do not press the reset switch with a sharp object, such as a metal pin.
- If the problem persists after the reset switch is pressed, contact your Denon dealer or a local Denon service center.

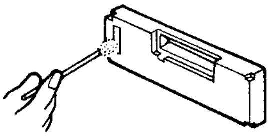
Error Displays

With the DCH-700/500 connected, if any of the following error displays are shown on the display when the unit is operated, carry out the measure indicated in the table.

Error display	Cause of error	Measure
NO MAG.	The disc magazine is not inserted in the changer.	Insert a disc magazine that has been loaded with discs into the changer.
NO DISC	Discs are not loaded in the disc magazine.	Remove the disc magazine and load the discs.
ERROR	The DCH-700/500 does not operate for some reason.	Push the DCR-930R reset switch
HOT	The temperature protection circuit of the DCH-700/500 has operated.	Wait until the temperature drops.
DISC REV	All of the discs in the magazine are upside-down or dirty.	Set the discs properly or wipe off the dirt.

Cleaning

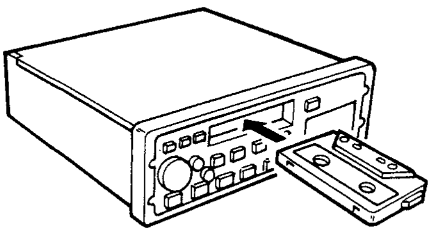




There may be a poor connection at the connector on the panel or on the set if the unit is frequently detached. Periodically wipe the connectors with a cotton swab moistened with alcohol.

* Always turn the car's accessory power supply off when cleaning.

Cleaning the tape head



When playback sound begins to deteriorate, it is time to clean the playback head. Insert a special head cleaning cassette into the tape-loading slot and allow it to run for a few minutes to remove any foreign matter.

For replacement contact your DENON dealer or local DENON service center.

[Europe Version]

SPECIFICATIONS

FM TUNER

Mono Usable Sensitivity	14.8 dBf 1.5 μV (75 ohms)
50 dB Quieting Sensitivity	20.3 dBf 2.8 μV (75 ohms)
Alternate Channel Selectivity	100 dB
S/N (Signal to Noise Ratio)	70 dB
Stereo Separation	40 dB at 1 kHz
Capture Ratio	2.5 dB
Image Rejection	70 dB
IF Rejection	120 dB

AM TUNER

Sensitivity (MW)	30 μV (S/N 20 dB)
(LW)	60 μV (S/N 20 dB)

TAPE

Wow and Flutter	0.09% WRMS
Stereo Separation	37 dB at 1 kHz
S/N (Signal to Noise Ratio)	72 dB (Dolby C NR)
Frequency Response	
– with METAL/CrO_2/FeCr (70 μS tape)	30 Hz to 18 kHz ±3 dB
– with NORMAL (120 μS tape)	30 Hz to 16 kHz ±3 dB

GENERAL

Power Output *[1]	14 W × 4 ch at 1 kHz with 10% THD
Power Output *[2]	10 W × 4 ch from 20 Hz to 20 kHz with 0.8% THD
Output Voltage – Pre-amp level	1 V/10 k ohms
Bass	±12 dB at 40 Hz
Treble	±12 dB at 15 kHz
Loudness (Vol. –30 dB)	+8 dB at 100 Hz +8 dB at 10 kHz
Remote Output	12 V 500 mA max.
Power Antenna Output	12 V 500 mA max.
Chassis Size (W × H × D)	178 mm × 50 mm × 172 mm (7-1/64" × 2" × 6-25/32")
Panel Size (W × H × D)	187 mm × 59 mm × 23mm (7-23/64" × 2-21/64" × 29/32")
Weight	1.8 kg (4 lbs)

*[1] Power Output is per channel minimum continuous average power into 4 ohms, both channels driven, at 1 kHz, with no more than 10% total harmonic distortion.

*[2] Power Output is per channel minimum continuous average power into 4 ohms, both channels driven from 20 Hz to 20 kHz, with no more than 0.8% total harmonic distortion.

Design and specifications are subject to change for improvement without prior notice.

MEMO

CIRCUIT DESCRIPTION

RDS (Radio Data System)

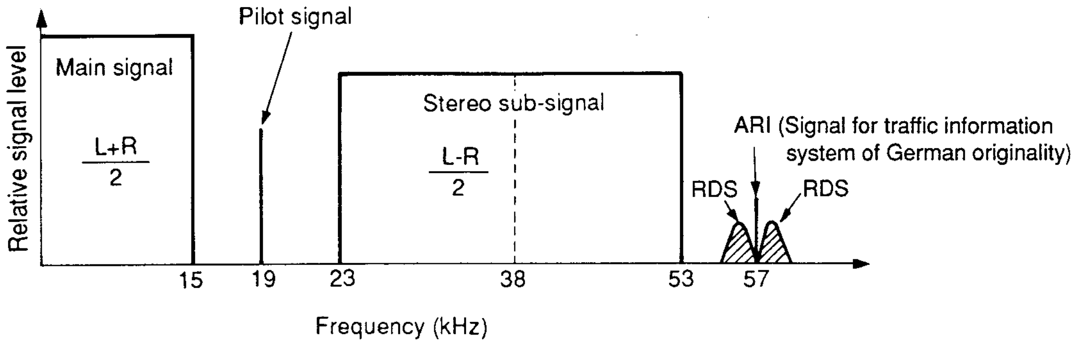
- RDS is a new FM-broadcasting system, which is promoted by European Broadcasting Union (EBU) in Europe and by National Radio System Committee (NRSC) in U.S.A.. Inaudible control signals are transmitted with the subcarrior to automatize FM reception and maximize operating ease. With RDS, the tuner can display the call name of the currently received station or search automatically for the strongest transmitter signal with the same or any specified program. These features are highly useful also for receiving traffic information or ensuring optimum reception in a car.

- Main specifications of RDS

Data rate	1,187.5 bps
Signal format	(26,16) modified shortened cyclic code
Baseband signal format	Differential phase shift keying (DPSK)
Subcarrier frequency	57 kHz
Subcarrier frequency modulation	Double Side Band Suppressed Carrier Amplitude Modulation
Maincarrier frequency deviation	±2 kHz

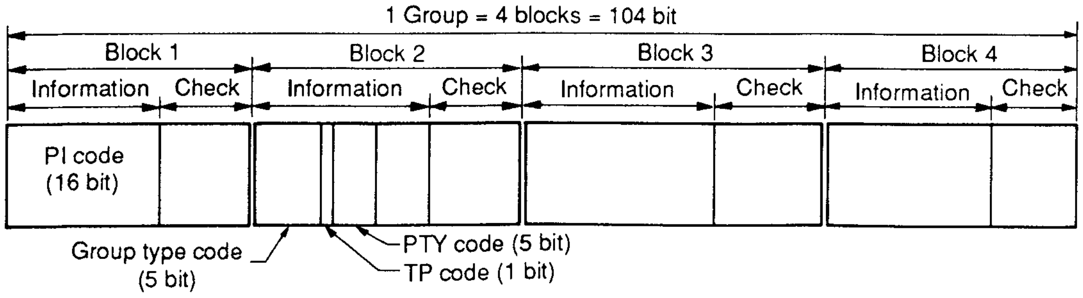
- Data channel

  Data channel employs 57 kHz band to minimize interference to programme band. RDS signal is a signal with bit rate of 1,187.5 bps. modulated by differential phase shift keying (DPSK). This signal comprises the composite signal and an additional signal with subcarries of 57kHz modulated in amplitude by double side band suppressed carriers.



- Data Format

  All data are transmitted in a group unit which comprises 104 bit. The 104 bit unit comprises 4 block, which format 26 bit block respectively. Each block comprises 16 bit information words and 10 bit check words. Data in each block are specified depending on the situation: The first 16 bit of the first block is always the program identification (PI) code, the first 5 bit of the second block is a group-type to clarify the group application, the next 1 bit is Traffic Program Identification (TP) code, and the following 5 bit is Program Type (PTY) code. Each contents of data is specified for remainder of the second block, the third and fourth block data respectively. Group type comprises 32 types of 0A~15B, which transmit different contents in each group respectively. Group 0A has a role of basic tuning function, and therefore is transmitted most often.

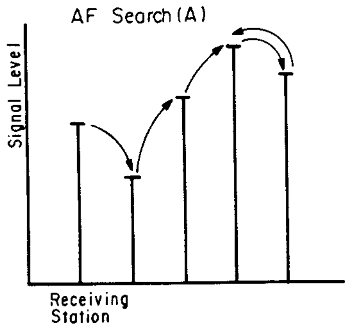


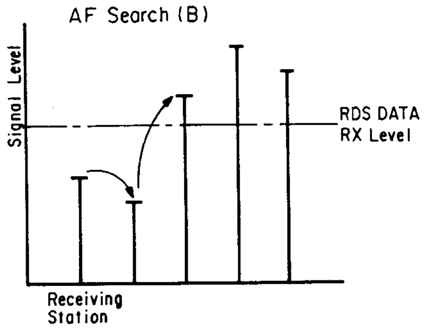
PI: Program Identification Code (Country identification, Area coverage, Programme reference number)
TP: Traffic Program Identification Code.
PTY: Program Type Code (News, Sports, Classical, Rock)

RDS Control

1. Signal Flow (Refer to Block Diagram)
   Picks up RDS signal from the output of FM IF IC (IC403/LA1862M) through C302 (100P). Inputs this signal to RDS decoder IC301 (SAA6579T) for decoding, further, inputs this signal to synchro correction IC IC302 (LC7070) to demodulate RDS data, thus RDS data will be demodulated.
   RDS data as in form of serial data consists of RDS START, RDS CLK, and RDS DATA is emitted from IC302 and applied to system control microcomputer IC901 (μPD7804). This IC901 performs DCR-930R related all controls of LCD indication, control of CD changer, etc. besides control of RDS. RDS data will be memorized in internal RAM of IC901 and in IC903 (LC3517AML) of external RAM.
2. PS Function: Program Service Name
   A function to indicate a name of broadcast station being received on the LCD by PS code in BLOCK 4 of Group 0A. Also, functions to indicate on the LCD when PS code is received through the continual check of PS code without relying on "AF/PTY" key or "TA" key if it is FM BAND.
3. AF Function: Alternative Frequencies (frequency list of stations broadcasting the same program)
   An automatic searching function, i.e. when reception condition of RDS station being received becomes poor for some reason, or in case a station being received comes into out of service area and makes no reception as receiving is carried out on the moving vehicle, shifts to a station broadcasting the same program. The automatic searching function only performs at the time "AF/PTY" key ON or "TA" key ON state, on the other hand PI code or AF code is continually checked in FM BAND.
4. TA Function: Traffic Announcement
   A function at the time TA code of 12th bit in BLOCK 2 of group 0A becomes ON, it automatically shifts the voice to RADIO and listen to traffic announcement even if the voice of cassette or CD changer is in output state. At the same time, sound volume will also be boosted however the volume is set at minimum that can be feasible to listen to the traffic announcement. Note that TA function is only effective in "TA" key ON state.
5. CT Function (Clock time)
   CT-code is transmitted using Group 4A. CT-code is generally sent from broadcast station one time per one minute.
   When receiving RDS broadcast transmitting CT-code, clock can be automatically adjusted by pressing "CLK" key for 2 seconds.
6. Search Function
   1) AF Search
   AF search performs automatic search as mentioned in "Paragraph 3. AF Function", also performs the optimum reception searching (to select best receiving condition station among the same PI code broadcast stations) at the time RADIO ON, shifting from AM, to FM BAND, or at preset call, etc.
   The latter one is called AF Search (A) and the former one is called AF Search (B).
   AF search (B) will function when field strength has reached less than certain level (this level is adjustable by VR 404) or RDS data is unable to receive for 10 seconds (*), or the same PI code is unable to receive for 10 seconds. Also, AF search (B) stops searching when RDS code is enable to receive and at the time searches the same PI code station, then shifts the receiving station. The both AF search (A) and (B) return to the receiving station searching has started when an appropriate station which satisfies the conditions is unable to find in one round search.

   (*) When RDS signal is unable to receive for 5 seconds, AF indication will blink in "AF" key ON state, PTY indication will blink in "PTY" key ON state and TA indication will blink in "TA" key ON state.
   Note:) When performing AF search, time constants of low pass filter of PLL circuit (TR404, 405, IC401 [TC4S66F]) are changed in order to minimize audio interruption. Thus, the time for PLL circuit to lock can be shortened. (2-mode loop filter circuit)





   2) PI Search
   When performing AF Search (A) and receives no RDS station, (**) performing AF Search (B) consecutively 10 times, and receives no RDS station, or PI code is detected however, AF code can not be read and that the performing of AF search is unable to do, then, PI Search will be performed 15 seconds later. This PI Search is Auto Seek and to search the same PI code station, and to produce a "BEEP" tone at beginning of search and indicates 'PI' preceding to the frequency display on LCD. And, when searching FM BAND for one round and can not find the same PI code station, produces a BEEP" tone gain to finish searching.

   (**) For U.S.A. model, PI search cannot be performed in this case.

   3) RDS Search
   When ◎ key or ⊕ key is pressed (only in SEEK mode) (For U.S.A. model, when RDS SEEK key is pressed), it becomes AUTO Seek, RDS Search to stop only at RDS station. At this time, preceding to the frequency display on LCD indicates 'RDS' letter. Also, in "AF" key ON state, when wholly has not received PI code or AF code by the station being received (stores no PI code or AF code in the memory of microcomputer) and RDS data (***) can not be received for 2 seconds causes to produce a "BEEP" tone and automatically performs RDS search.

   (***) For U.S.A. model, RDS search cannot be performed in this case.

   4) TP Search
   When ◎ key or ⊕ key is pressed in "TP" key ON state (only in SEEK mode) (For U.S.A. model, when RDS SEEK key is pressed), become AUTO Seek, TP Search to stop only at a station which TP code is ON in BLOCK 2 of all groups. At this time, 'TP' letter will be displayed preceding to the frequency indication on LCD.
   Or, when TP code can not be detected for 15 seconds in "TA" key ON state when turning ON the RADIO or becomes FM mode from AM mode and can not detect TP code for 2 seconds, or at the time a receiving station is not TP station and to turn ON "TA" key, produces a "BEEP" tone and performs TP Search automatically (For U.S.A. model, does not shift to TP search automatically).
   Also, when performs TP Search for 5 rounds in BAND and can not search TP station, continually produces "BEEP" tone. This alarm tone continues until finding TP station or when it becomes "TA" key OFF state, it also continues however shifting to cassette or CD mode if "TA" key ON state remains.
   5) PTY Search (Program Type)
   PTY-code is transmitting 7 ~ 11 bit of BLOCK 2 of all groups. PTY-code has 16 defferent types (For U.S.A. model, only 24 types). Press "AF/PTY" key for more than 2 seconds, press ▭ or ▭ key to select desired type; then AUTO Seek can be obtained by ◎ key or ⊕ key pressing (For U.S.A. model, when RDS SEEK key is pressed) and can stop at the desired typed station only.
7. EON Function (Enhanced Other Networks information)
   EON data are information data of station other than currently receiving from. Transmitted data are PI, PS, AF, TA, TP, PTY, and etc. of other stations. EON data are sent using Group 14A and Group 14B. By using these EON data, rewriting of contents of preset memory from time to time, and listening to traffic informations other than currently receiving becomes feasible.
8. MODE
   DCR-930R has 4 modes: RDS OFF, AF, TA, PTY, and the mode will be cyclically shifted with "AF/PTY" key and "TA" key.

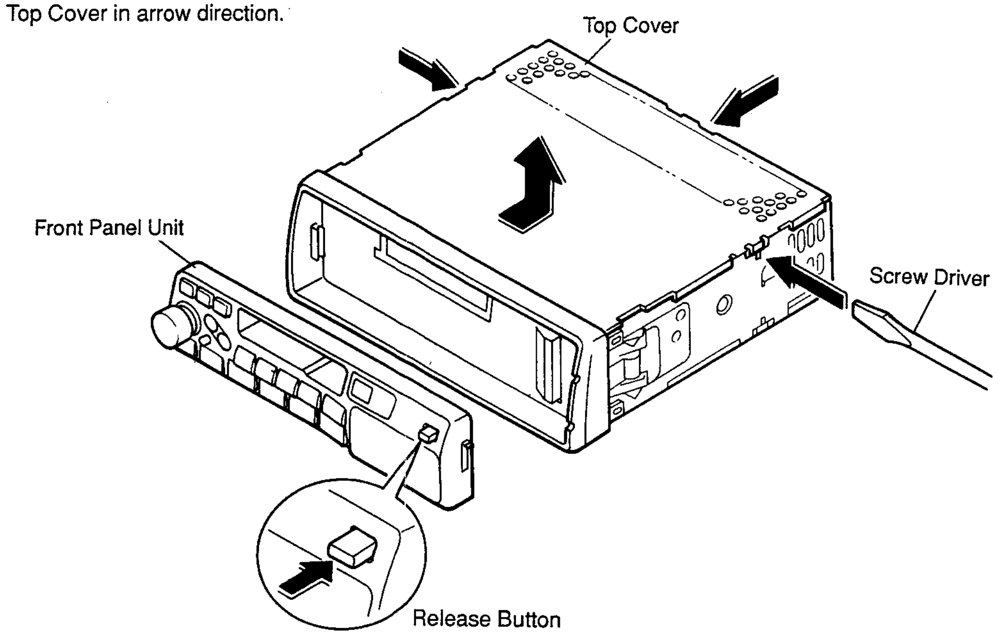
Key In Present Mode	AF/PTY	TA
RDS OFF	AF	TA
AF	PTY	TA
PTY	OFF	TA
TA	AF	RDS OFF

The following is the effective functions for each mode.

	PS	PTY (ONLY 31)	AF Search	PI Search	RDS Search	TP Search	PTY Search
RDS OFF	O	O	×	×	×	×	×
AF	O	O	O	O	O	×	×
TA	O	O	O	×	×	O	×
PTY	O	O	O	×	×	×	O

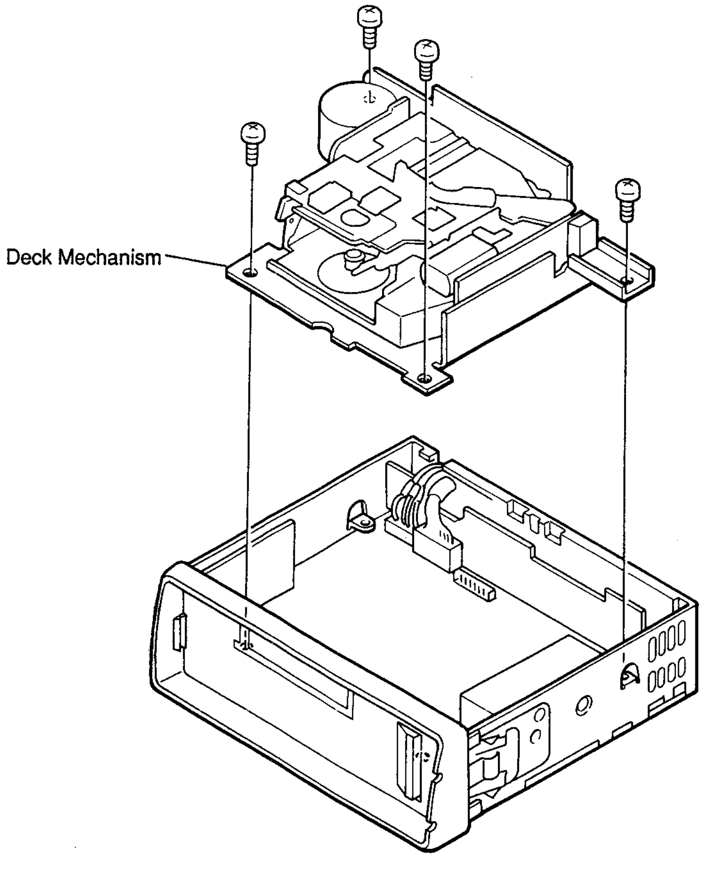
REMOVAL OF EACH SECTION

- **Front Panel Unit and Top Cover**
  1) Press release button to remove Front Panel Unit.
  2) Insert a screwdriver into three holes and moving the screwdriver, pull up Top Cover in arrow direction.


Top Cover
Front Panel Unit
Screw Driver
Release Button

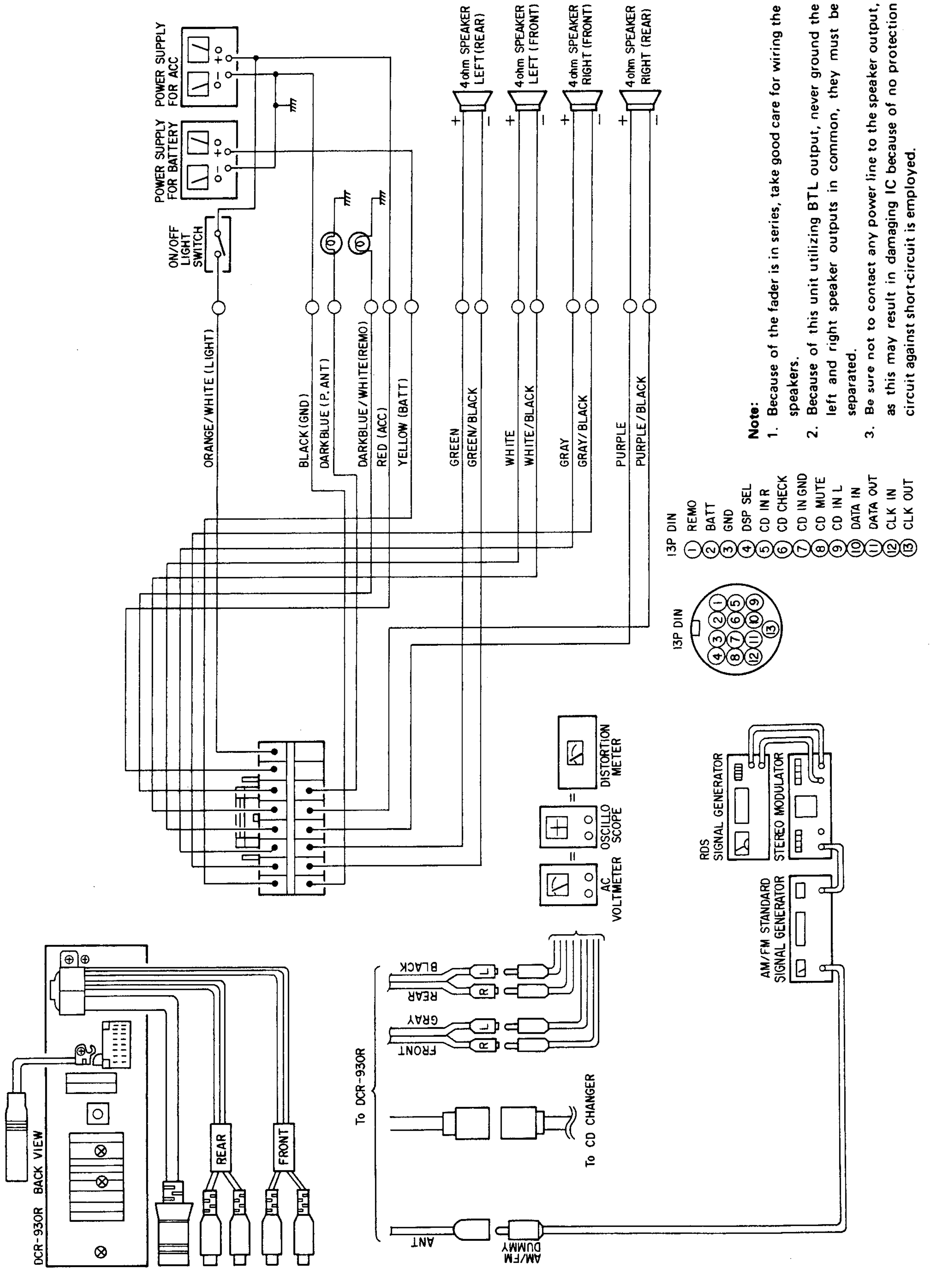
- **Deck Mechanism**

  Disassemble the Deck Mechanism by means of removing 4 screws and pull out the connector from the P.W.B.


Deck Mechanism

SPECIFICATIONS FOR ADJUSTMENT

● WIRING DIAGRAM


POWER SUPPLY FOR ACC
POWER SUPPLY FOR BATTERY
ON/OFF LIGHT SWITCH
4ohm SPEAKER LEFT (REAR)
4ohm SPEAKER LEFT (FRONT)
4ohm SPEAKER RIGHT (FRONT)
4ohm SPEAKER RIGHT (REAR)
ORANGE/WHITE (LIGHT)
BLACK (GND)
DARKBLUE (P.ANT)
DARKBLUE/WHITE (REMO)
RED (ACC)
YELLOW (BATT)
GREEN
GREEN/BLACK
WHITE
WHITE/BLACK
GRAY
GRAY/BLACK
PURPLE
PURPLE/BLACK
13P DIN
13P DIN
① REMO
② BATT
③ GND
④ DSP SEL
⑤ CD IN R
⑥ CD CHECK
⑦ CD IN GND
⑧ CD MUTE
⑨ CD IN L
⑩ DATA IN
⑪ DATA OUT
⑫ CLK IN
⑬ CLK OUT
DISTORTION METER
OSCILLO SCOPE
AC VOLTMETER
RDS SIGNAL GENERATOR
STEREO MODULATOR
AM/FM STANDARD SIGNAL GENERATOR
BLACK
REAR
GRAY
FRONT
L
R
To DCR-930R
To CD CHANGER
ANT
AM/FM DUMMY
DCR-930R BACK VIEW
REAR
FRONT

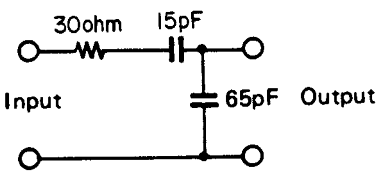
Note:

1. Because of the fader is in series, take good care for wiring the speakers.
2. Because of this unit utilizing BTL output, never ground the left and right speaker outputs in common, they must be separated.
3. Be sure not to contact any power line to the speaker output, as this may result in damaging IC because of no protection circuit against short-circuit is employed.

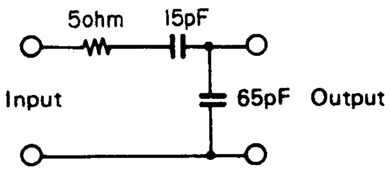
1. Conditions for adjustment (adjustment must be done in the following conditions)

1-1 Supply voltage	14.4V DC
1-2 Temperature	Normal temperature
1-3 Dummy antenna	Use standard dummy antenna

AM standard dummy


30ohm
15pF
Input
65pF
Output

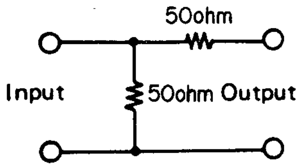
For 50ohm signal generator


5ohm
15pF
Input
65pF
Output

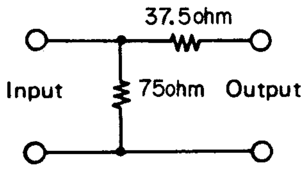
For 75ohm signal generator

Note: Input level should be read at the SG output.

FM standard dummy


50ohm
Input
50ohm
Output

For 50ohm signal generator


37.5ohm
Input
75ohm
Output

For 75ohm signal generator

Note: Input level should be read at the unit input (antenna input).

2. Setting of controls before adjustment (controls and switches must be set as follows)

   2-1 Controls
   - Requires semifixed resistors set at mechanical center position.
   - Control knob — Set balance and fader to center, bass and treble to 0.
     Set volume at MAX position.

   2-2 Switches
   - LOUD, MUTE, MONO, AF, LOCAL, and TA, set to OFF position.
   - ☐☐ B, ☐☐C and MTL, set to OFF position.

ADJUSTMENT

There is no change except undermentioned FM ALIGNMENT, FM MPX ALIGNMENT and CONFIRMATION ITEMS (Appendix.)

● **FM ALIGNMENT (Confirm that the LOCAL is not indicated.)** **Table 1**

Step	Aligning	SG set	Tune in to	Output Connection	Adjusting Method	Remarks
1	Discriminator (FM Det Coil)	98.1 MHz 1 kHz, 75 kHz dev 60 dBμ (Ant input)	98.1 MHz	CN2A 0-center meter	Adjust T401 and obtain 0-center meter indication at 0V.	Indication should be within 0 ± 0.05V.
2	FM IF (Tuner Pack)	98.1 MHz 1 kHz, 75 kHz dev Low level without limiter effect	98.1 MHz	LINE Amp output to AC Voltmeter	(Adjust IFT1 for) maximum output.	Preset by the factory. Adjust only as necessary.
3	Muting	98.1 MHz 1 kHz, 75 kHz dev 60 dBμ (Ant input)	98.1 MHz	LINE Amp output to AC Voltmeter	None	Set the Line output at 0dB. –25dB (Europe Version, –35dB) over noise output by moving the SG frequency from 98.1 to 99.1 MHz.
4	Output level	98.1 MHz 1 kHz, 75 kHz dev 60 dBμ (Ant input)	98.1 MHz	LINE Amp output to AC Voltmeter	None	Set the Volume control at maximum. Confirm that LINE Amp output is within 1.25V ± 0.25V (center 1.25V).
5	Auto-stop level	98.1 MHz 1 kHz 75 kHz dev 17 dBμ (Ant input)	98.1 MHz	None	Adjust VR403 and set to the range.	Select appropriate frequency point and search. Confirm that auto stop functions at 17±5dBμ ANT input.

● **FM MPX ALIGNMENT (Confirm that the MONO is not indicated.)** **Table 2**

Step	Aligning	SG set	Tune in to	Output Connection	Adjusting Method	Remarks
6	Separation	98.1 MHz 1 kHz, 67.5 kHz dev Pilot 7.5kHz dev 60 dBμ (Ant input)	98.1 MHz	L and R LINE Amp output to AC Voltmeter	Adjust VR401 and set to the range.	L and R separation becomes 25 dB over.
7	D.O.R.S. IV (Auto-blend and Auto high filter)	98.1 MHz 1 kHz, 67.5 kHz dev Pilot 7.5kHz dev 40 dBμ (Ant input)	98.1 MHz	L and R LINE Amp output to AC Voltmeter	Adjust VR402 so that the L and R separation becomes 10±3dB.	As input 60dBμ separation occasionally changes for worse when performing adjustment, repeat adjustments Separation and Autoblend for any number of times.
8	AF start level	98.1 MHz 1 kHz, 60.0 kHz dev Pilot 7.5kHz dev 20dB (Ant input)	98.1 MHz	TP (VSM) to DC Voltmeter	Adjust VR404 to obtain 1.5V on the DC Voltmeter	

● AM (MW/LW) ALIGNMENT

Table 3

Step	Aligning	SG set	Tune in to	Output Connection	Adjusting Point	Adjusting Method	Remarks
9	AM IF	999 kHz 400 Hz 30% Level at no AGC effect	999 kHz	L and R Line Amp output to AC Voltmeter	IFT2 IFT3	Preset by the factory. Adjust only as necessary.	
10	Tuning Voltage		531 kHz 1602 kHz			Preset by the factory. Adjust only as necessary.	
11	Tracking	603 kHz 400 Hz 30% Low level without limiter effect 1404 kHz 400 Hz 30% Low level without limiter effect		L and R Line Amp output to AC Voltmeter	None	Preset by the factory. Adjust only as necessary.	
12	Auto-stop level	999 kHz 400 Hz 30%	Select appropriate frequency point and search.		None	None	Indication should be within 35 ± 6dBμ.
13	Output level	999 kHz 400 Hz 90% 74 dBμ (Ant input)	999 kHz	L and R Line Amp output to AC Voltmeter	None	None	Set the Volume control at maximum. Confirm that LINE Amp output is within 1.25V ± 0.25V (center 1.25V).

● TAPE DECK ALIGNMENT

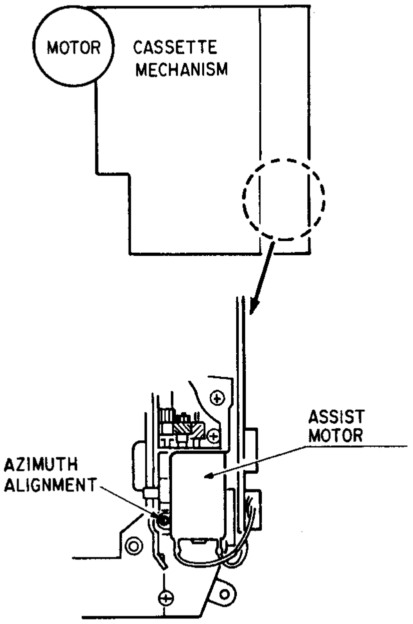
Table 4

Step	Aligning	Test Tape	Output Connection	Adjustment Method	Remarks
14	Tape level	MTT-150 (TCC-130)	IC601⑥pin, ㊲pin	Adjust VR601, 602 to obtain 450mVrms on the AC voltmeter.	Set the Volume control at maximum. Set the Fader control at fully counter-clockwise. Balance, Treble and Bass Control at center position. Confirm that LINE Amp output is within 1.25V ± 0.25V (center 1.25V).
15	Azimuth angle	MTT-144 (TCC-153)	LINE Amp output to AC voltmeter	Adjust azimuth adjustment screw so that the L and R output level become same and maximum.	Adjust both forward and reverse modes. (Preset by the factory. Adjust only as necessary.)
16	Wow and Flutter	MTT-111 (TCC-111)	LINE Amp output to AC voltmeter		Confirm that wow and flutter is within 0.25%.

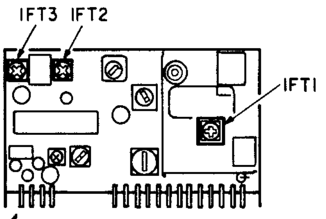
Step	Aligning	Test Tape	Output Connection	Adjustment Method	Remarks
17	Tape Speed	MTT-111 (TCC-111)	LINE Amp output to Frequency Meter.	Adjust volume through hole of motor with a screwdriver.	3000 Hz +3%, –1% (2970~3090 Hz)
18	Play torque (FWD/REV)	TW-2111A (FWD) TW-2121A (REW)	None	None	25~55 g • cm
19	FF/REW torque	TW-2231	None	None	60~200 g • cm
20	Back Tension	TW-2111A (FWD) TW-2121A (REW)	None	None	1.0~5.0 g • cm
21	FF/REW time	C-60 type	None	None	100 s ± 20 s

ADJUSTMENT POINT

● **TAPE**

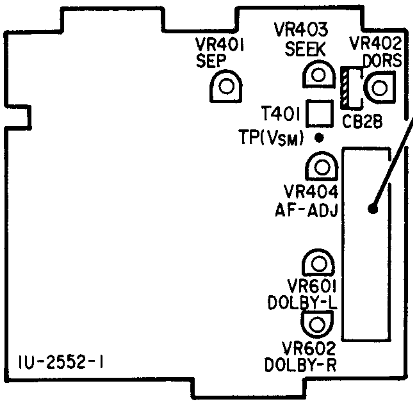

MOTOR
CASSETTE MECHANISM
ASSIST MOTOR
AZIMUTH ALIGNMENT

TN401 (FM/AM TUNER PACK)

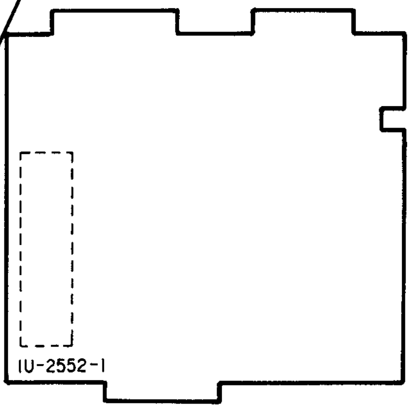

IFT3
IFT2
IFT1

● **RADIO & TAPE**

Component Side


VR401 SEP
VR403 SEEK
VR402 DORS
T401
CB2B
TP(VSM)
VR404 AF-ADJ
VR601 DOLBY-L
VR602 DOLBY-R
IU-2552-1

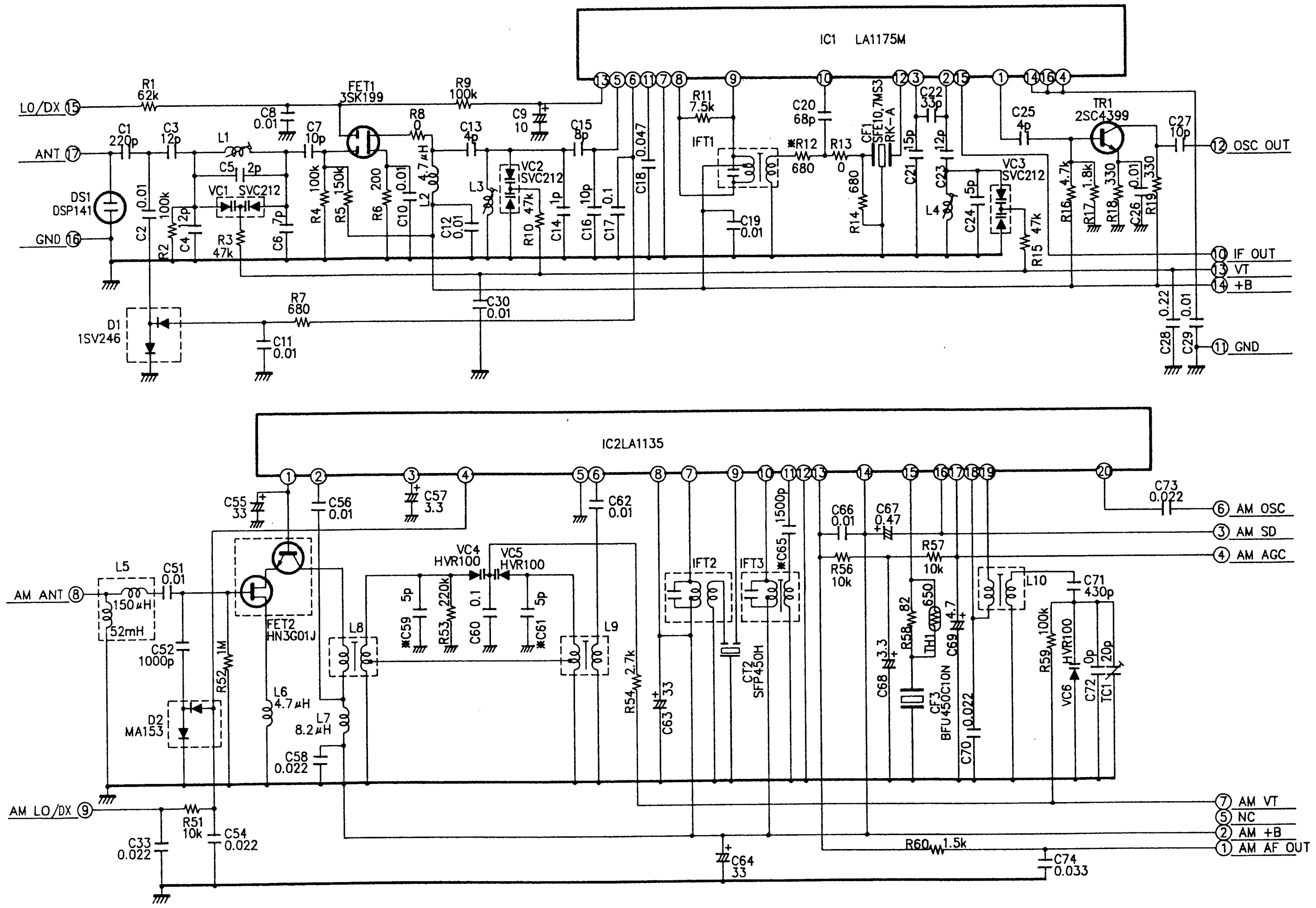
Pattern Side



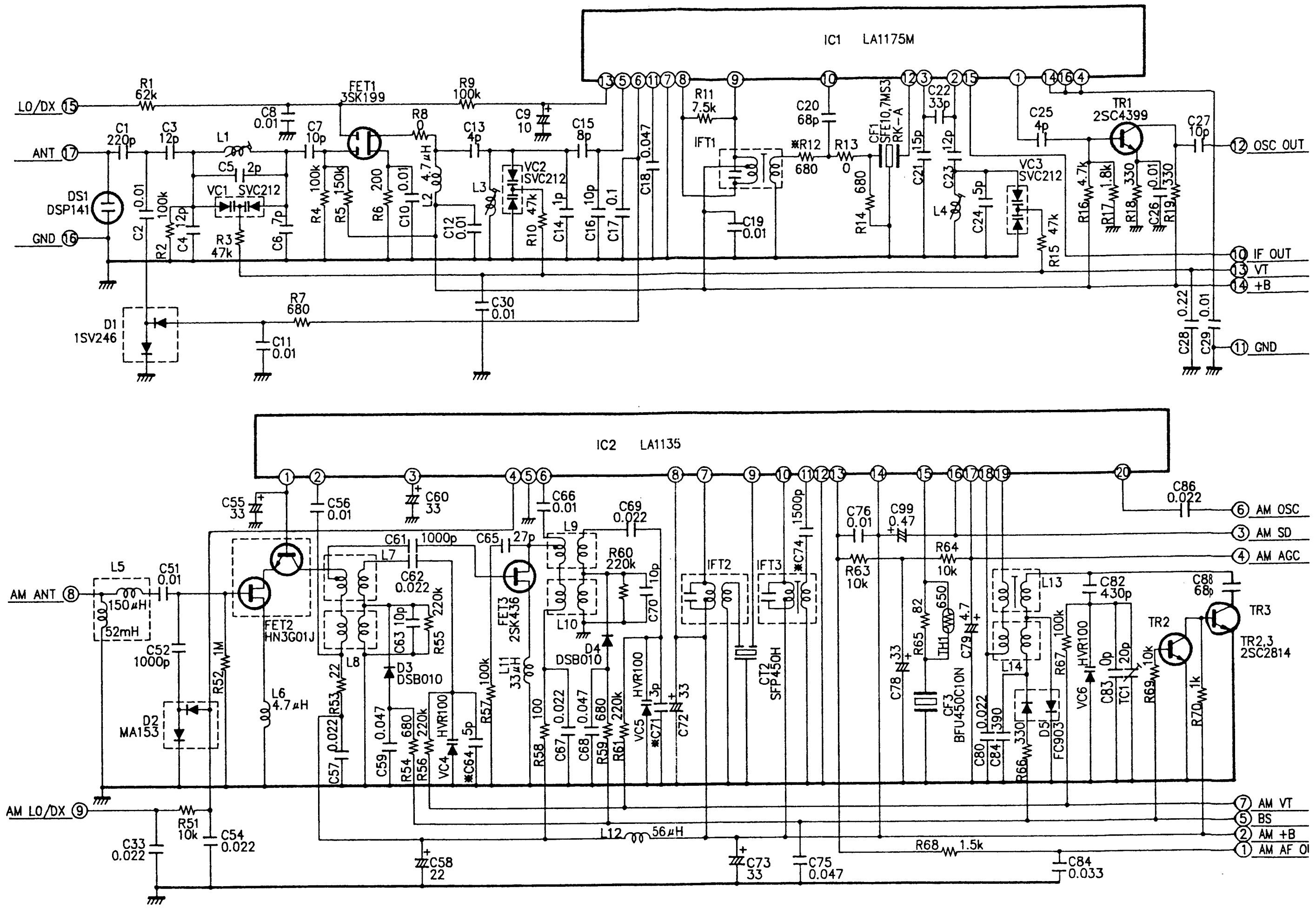
FRONT PANEL SIDE

FRONT PANEL SIDE

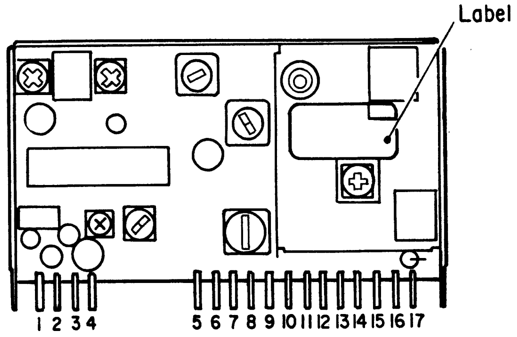
FM/AM TUNER PACK Part No. 216 0091 009
(for U.S.A. and Canada models)


IC1 LA1175M
IC2LA1135
LO/DX ⑮
ANT ⑰
GND ⑯
DS1 DSP141
FET1 3SK199
TR1 2SC4399
CF1 SFE10.7MS3 RK-A
IFT1
VC1 SVC212
VC2 SVC212
VC3 SVC212
D1 1SV246
⑫ OSC OUT
⑩ IF OUT
⑬ VT
⑭ +B
⑪ GND
AM ANT ⑧
AM LO/DX ⑨
FET2 HN3G01J
D2 MA153
L5 150μH 52mH
L6 4.7μH
L7 8.2μH
VC4 HVR100
VC5 HVR100
VC6 HVR100
IFT2
IFT3
CF2 SFP450H
CF3 BFU450C10N
TH1
L8
L9
L10
⑥ AM OSC
③ AM SD
④ AM AGC
⑦ AM VT
⑤ NC
② AM +B
① AM AF OUT
R60 1.5k
C74 0.033
C64 33

FM/AM TUNER PACK Part No. 216 0090 000
(for Europe model)

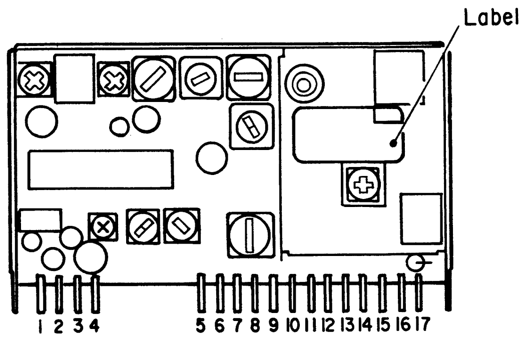

IC1 LA1175M
IC2 LA1135
LO/DX ⑮
ANT ⑰
GND ⑯
DS1 DSP141
FET1 3SK199
TR1 2SC4399
CF1 SFE10.7MS3 RK-A
IFT1
VC1 SVC212
VC2 SVC212
VC3 SVC212
D1 1SV246
⑫ OSC OUT
⑩ IF OUT
⑬ VT
⑭ +B
⑪ GND
AM ANT ⑧
AM LO/DX ⑨
FET2 HN3G01J
FET3 2SK436
D2 MA153
D3 DSB010
D4 DSB010
D5 FC903
L5 150μH 52mH
L6 4.7μH
L11 33μH
L12 56μH
TR2
TR3
TR2,3 2SC2814
VC4 HVR100
VC5 HVR100
VC6 HVR100
IFT2
IFT3
CF2 SFP450H
CF3 BFU450C10N
TH1
⑥ AM OSC
③ AM SD
④ AM AGC
⑦ AM VT
⑤ BS
② AM +B
① AM AF O
R68 1.5k
C84 0.033
C58 22
C73 33
C75 0.047

Note:
1. CV1, 2, 3 SVC-212 (or Equivalent)
2. Parts with ✻ are adjustable and may be changed.


Label
1 2 3 4
5 6 7 8 9 10 11 12 13 14 15 16 17

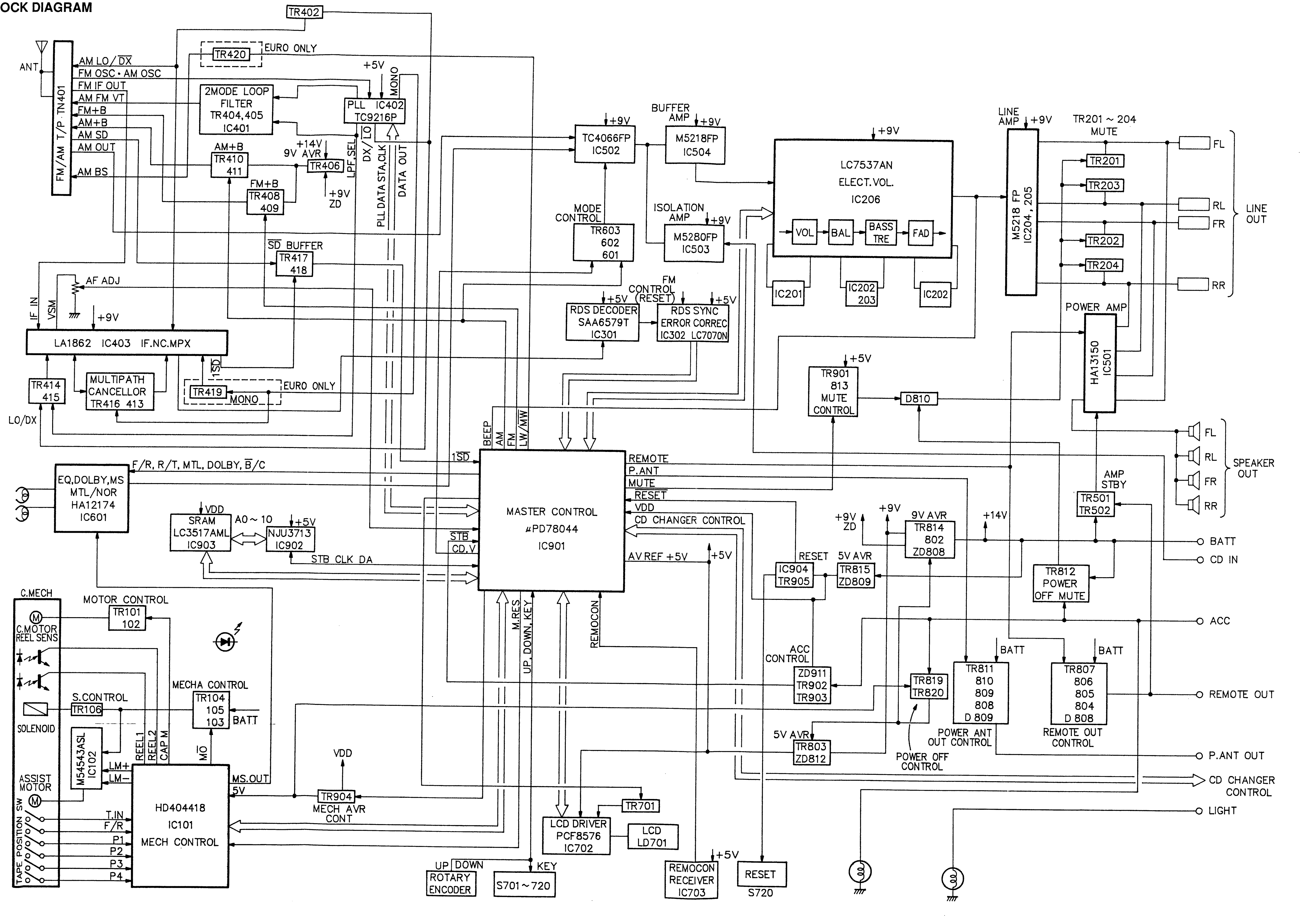
Terminal No.
1. AM DET OUT
2. AM + B
3. AM SD
4. AM AGC
5. NC
6. AM OSC OUT
7. AM VT
8. AM. ANT
9. AM LO/DX
10. FM IF OUT
11. FM GND
12. FM OSC OUT
13. FM TV
14. FM + B
15. FM LO/DX
16. FM GND
17. FM ANT

Note:
1. CV1, 2, 3 SVC-212 (or Equivalent)
2. Parts with ✻ are adjustable and may be changed.


Label
1 2 3 4
5 6 7 8 9 10 11 12 13 14 15 16 17

Terminal No.
1. AM DET OUT
2. AM + B
3. AM SD
4. AM AGC
5. AM BS
6. AM OSC OUT
7. AM VT
8. AM. ANT
9. AM LO/DX
10. FM IF OUT
11. FM GND
12. FM OSC OUT
13. FM TV
14. FM + B
15. FM LO/DX
16. FM GND
17. FM ANT

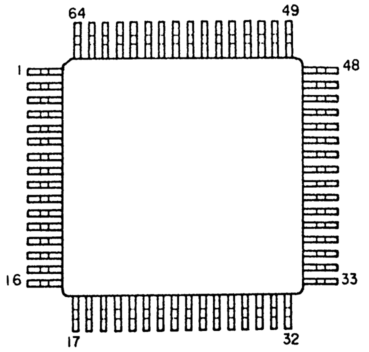
BLOCK DIAGRAM


ANT
FM/AM T/P TN401
AM LO/DX
FM OSC・AM OSC
FM IF OUT
AM FM VT
FM+B
AM+B
AM SD
AM OUT
AM BS
TR402
TR420
EURO ONLY
+5V
MONO
2MODE LOOP FILTER TR404,405 IC401
PLL IC402 TC9216P
AM+B
TR410 411
+14V
9V AVR
TR406
+9V ZD
LPF.SEL
DX/LO
PLL DATA STA.CLK
DATA OUT
FM+B
TR408 409
SD BUFFER
TR417 418
AF ADJ
IF IN
VSM
+9V
LA1862 IC403 IF.NC.MPX
1SD
TR414 415
MULTIPATH CANCELLOR TR416 413
TR419
MONO
EURO ONLY
LO/DX
+9V
TC4066FP IC502
BUFFER AMP
+9V
M5218FP IC504
MODE CONTROL
TR603 602 601
ISOLATION AMP
+9V
M5280FP IC503
+9V
LC7537AN ELECT.VOL. IC206
VOL
BAL
BASS TRE
FAD
IC201
IC202 203
IC202
FM CONTROL (RESET)
+5V
+5V
RDS DECODER SAA6579T IC301
RDS SYNC ERROR CORREC IC302 LC7070N
LINE AMP
+9V
M5218 FP IC204, 205
TR201 ~ 204 MUTE
TR201
TR203
TR202
TR204
FL
RL
FR
RR
LINE OUT
POWER AMP
HA13150 IC501
+5V
TR901 813 MUTE CONTROL
D810
FL
RL
FR
RR
SPEAKER OUT
AMP STBY
TR501 TR502
BEEP
AM
FM
LW/MW
1SD
F/R, R/T, MTL, DOLBY, B/C
EQ,DOLBY,MS MTL/NOR HA12174 IC601
REMOTE
P.ANT
MUTE
RESET
VDD
CD CHANGER CONTROL
MASTER CONTROL μPD78044 IC901
STB
CD.V
AV REF +5V
+5V
VDD
SRAM LC3517AML IC903
A0 ~ 10
+5V
NJU3713 IC902
STB CLK DA
RESET
IC904 TR905
5V AVR
TR815 ZD809
+9V ZD
+9V
9V AVR
TR814 802 ZD808
+14V
TR812 POWER OFF MUTE
BATT
CD IN
ACC
C.MECH
MOTOR CONTROL
TR101 102
C.MOTOR
REEL SENS
S.CONTROL
TR106
SOLENOID
MECHA CONTROL
TR104 105 103
BATT
M5543ASL IC102
LM+
LM−
ASSIST MOTOR
REEL1
REEL2
CAP M
MO
HD404418 IC101 MECH CONTROL
MS.OUT
5V
TAPE POSITION SW
T.IN
F/R
P1
P2
P3
P4
VDD
TR904
MECH AVR CONT
M.RES
UP, DOWN, KEY
REMOCON
ACC CONTROL
ZD911 TR902 TR903
TR819 TR820
BATT
TR811 810 809 808 D 809
BATT
TR807 806 805 804 D 808
POWER ANT OUT CONTROL
REMOTE OUT CONTROL
POWER OFF CONTROL
REMOTE OUT
5V AVR
TR803 ZD812
P.ANT OUT
CD CHANGER CONTROL
LIGHT
TR701
LCD DRIVER PCF8576 IC702
LCD LD701
UP DOWN
ROTARY ENCODER
KEY
S701 ~ 720
+5V
REMOCON RECEIVER IC703
RESET S720

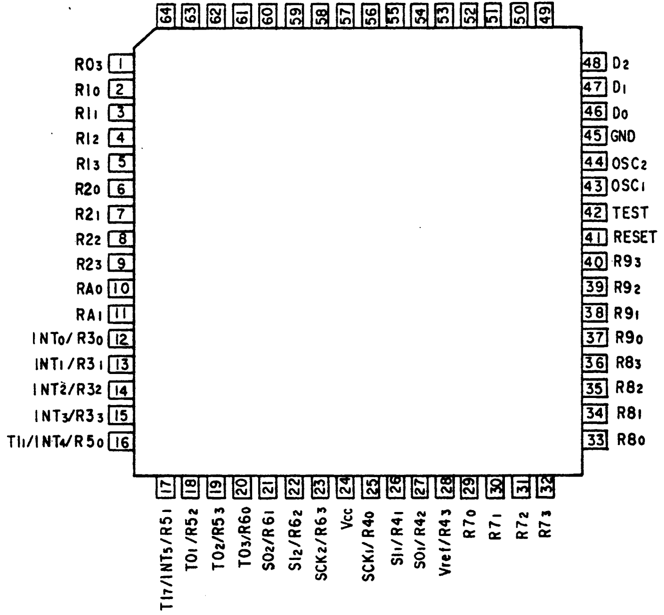
SEMICONDUCTORS

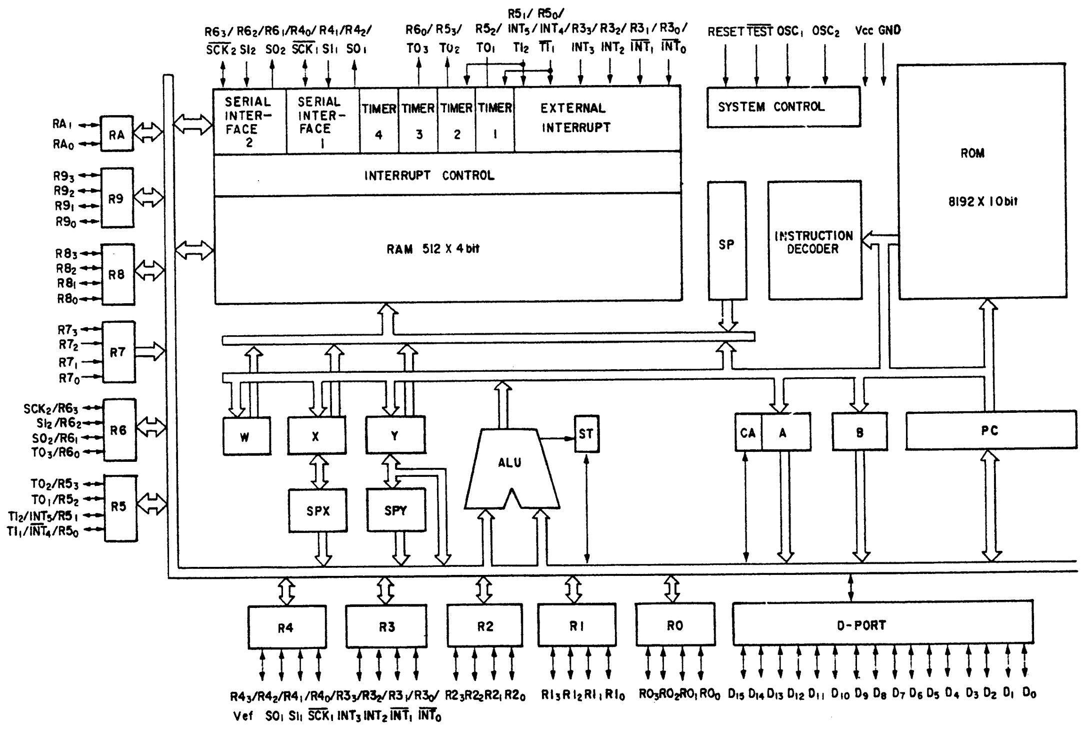
● IC's

HD404418 (IC101)


64
49
1
48
16
33
17
32

(Top view)

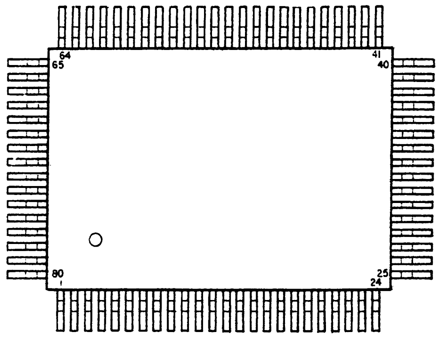

RO3 1
RI0 2
RI1 3
RI2 4
RI3 5
R20 6
R21 7
R22 8
R23 9
RA0 10
RA1 11
INT0/R30 12
INT1/R31 13
INT2/R32 14
INT3/R33 15
TI1/INT4/R50 16
TI7/INT5/R51 17
TO1/R52 18
TO2/R53 19
TO3/R60 20
SO2/R61 21
SI2/R62 22
SCK2/R63 23
Vcc 24
SCK1/R40 25
SI1/R41 26
SO1/R42 27
Vref/R43 28
R70 29
R71 30
R72 31
R73 32
R80 33
R81 34
R82 35
R83 36
R90 37
R91 38
R92 39
R93 40
RESET 41
TEST 42
OSC1 43
OSC2 44
GND 45
D0 46
D1 47
D2 48
D3 49
D4 50
D5 51
D6 52
D7 53
D8 54
D9 55
D10 56
D11 57
D12 58
D13 59
D14 60
D15 61
RO0 62
RO1 63
RO2 64

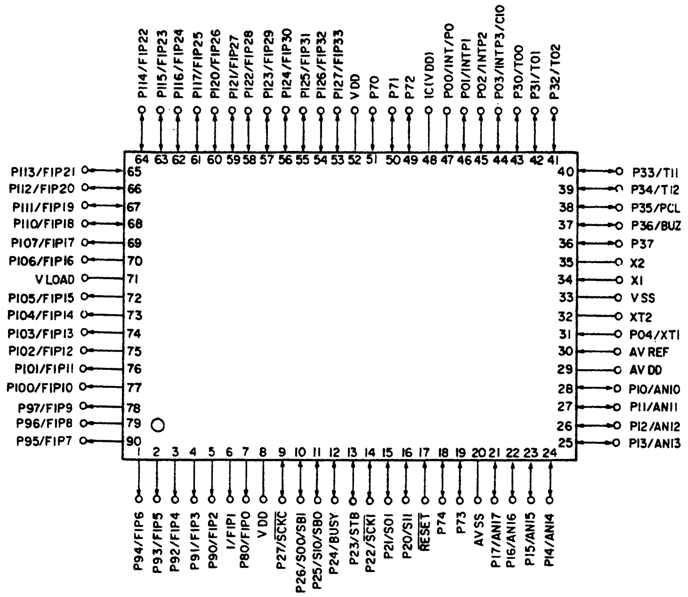

R63/R62/R61/R40/R41/R42/
SCK2 SI2 SO2 SCK1 SI1 SO1
R60/R53/
TO3 TO2
R52/
TO1
R51/R50/
INT5/INT4/R33/R32/R31/R30/
TI2 TI1 INT3 INT2 INT1 INT0
RESET TEST OSC1 OSC2 Vcc GND
SERIAL INTER-FACE 2
SERIAL INTER-FACE 1
TIMER 4
TIMER 3
TIMER 2
TIMER 1
EXTERNAL INTERRUPT
SYSTEM CONTROL
INTERRUPT CONTROL
RAM 512 X 4 bit
SP
INSTRUCTION DECODER
ROM
8192 X 10bit
RA1
RA0
RA
R93
R92
R91
R90
R9
R83
R82
R81
R80
R8
R73
R72
R71
R70
R7
SCK2/R63
SI2/R62
SO2/R61
TO3/R60
R6
TO2/R53
TO1/R52
TI2/INT5/R51
TI1/INT4/R50
R5
W
X
Y
ALU
ST
CA
A
B
PC
SPX
SPY
R4
R3
R2
RI
RO
D-PORT
R43/R42/R41/R40/R33/R32/R31/R30/
Vef SO1 SI1 SCK1 INT3 INT2 INT1 INT0
R23 R22 R21 R20
RI3 RI2 RI1 RI0
RO3 RO2 RO1 RO0
D15 D14 D13 D12 D11 D10 D9 D8 D7 D6 D5 D4 D3 D2 D1 D0

HD404418 TERMINAL FUNCTION

Pin No.	Symbol	I/O	Function
1	P4	I	Position data input port from cassette mechanism
2~12	NC		
13	AMSH	I	Detect input for sound existence. (Exists at high input)
14	AMSL	I	Detect input for sound existence. (Exists at high input)
15	REEL2	I	Detect input for reel board operation of takeup side in FWD play mode and at FF position.
16	NC		
17	REEL1	I	Detect input for reel board operation of takeup side in REV play mode and at REW position.
18	LM-	O	Output terminal for loading motor drive.
19	LM+	O	Output terminal for loading motor drive.
20 ~ 23	NC		
24	V_{CC}		Power supply (5V)
25	ME. SCK	I	Input terminal for serial clock from master µ-COM.
26	ME. SO	I	Input terminal for serial data from master µ-COM.
27	ME. SI	O	Output terminal for serial clock to master µ-COM.
28 ~ 40	NC		
41	RESET	I	Becomes reset state at high and from the time point of becoming lower level nextly, starts from program address $0000.
42	TEST	—	Connect to V_{CC}.
43	OSC1	—	Connecting terminal for system clock oscillation circuit.
44	OSC2	—	Connecting terminal for system clock oscillation circuit.
45	GND	—	GND
46 ~ 53	NC		
54	CE	I	Latch signal of data receipt from master µ-COM.
55	N/M	O	METAL output terminal. METAL at High; NORMAL at Low.
56	F/R OUT	O	When tape travel direction is; FWD → High output; REV → Low output.
57	CAP. M	O	Output terminal for Capstan motor drive. (Capstan motor ON at high output).
58	M. ON	O	Power control terminal for detection of loading motor, capstan motor, plunger, reel board operation and METAL (on at high).
59	PLUNGER	O	Outpu terminal for plunger drive. (Plunger ON at high output. plunger released at low output).
60	T. IN	I	Low at tape inserted and high at tape ejected.
61	F/R IN	I	When tape travel direction is; FWD → High input; REV → Low input;
62	P1	I	Position data input port from cassette mechanism.
63	P2	I	Position data input port from cassette mechanism.
64	P3	I	Position data input port from cassette mechanism.

µPD78044 TERMINAL FUNCTION (IC901)

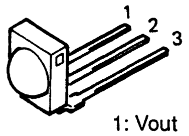

64
41
65
40
80
1
25
24


P114/FIP22
P115/FIP23
P116/FIP24
P117/FIP25
P120/FIP26
P121/FIP27
P122/FIP28
P123/FIP29
P124/FIP30
P125/FIP31
P126/FIP32
P127/FIP33
VDD
P70
P71
P72
IC(VDD)
P00/INT/P0
P01/INTP1
P02/INTP2
P03/INTP3/CI0
P30/TO0
P31/TO1
P32/TO2
P113/FIP21
P112/FIP20
P111/FIP19
P110/FIP18
P107/FIP17
P106/FIP16
VLOAD
P105/FIP15
P104/FIP14
P103/FIP13
P102/FIP12
P101/FIP11
P100/FIP10
P97/FIP9
P96/FIP8
P95/FIP7
P33/TI1
P34/TI2
P35/PCL
P36/BUZ
P37
X2
X1
VSS
XT2
P04/XT1
AVREF
AVDD
P10/ANI0
P11/ANI1
P12/ANI2
P13/ANI3
P94/FIP6
P93/FIP5
P92/FIP4
P91/FIP3
P90/FIP2
1/FIP1
P80/FIP0
VDD
P27/SCKC
P26/SO0/SB1
P25/SI0/SB0
P24/BUSY
P23/STB
P22/SCK1
P21/SO1
P20/SI1
RESET
P74
P73
AVSS
P17/ANI7
P16/ANI6
P15/ANI5
P14/ANI4
64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41
65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 90
40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

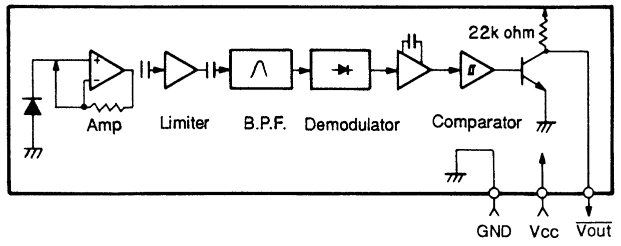
Pin No.	Name of Port	Name	Active	I/O	Description
1	P94	M.RESET	H	O	Mecha control µ-COM reset output
2	P93	MUTE	H	O	MUTE output
3	P92	FM	H	O	FM+B control output
4	P91	AM	H	O	AM+B control output
5	P90	$\overline{\text{MW}}$/LW	H	O	LW control output
6	P81	P.ANT	H	O	P.ANT control output
7	P80	REMO	H	O	Remote 14V control output
8	V_{DD}	VDD	—	—	
9	P27/SCK0	CDCI	—	I	CD-changer serial clock input
10	P26/SO0	CDSI	—	I	CD-changer serial data input
11	P25/SI0	CDSO	—	O	CD-changer serial data output
12	P24	DSPSEL	—	O	CD-changer communication timing signal output
13	P23	CDCO	—	O	CD-changer serial clock output
14	P22	RDSCLK	—	I	Serial clock input from LC7070
15	P21	NC	—	—	
16	P20	RDSDATA	—	I	Serial data input from LC7070
17	RESET	$\overline{\text{RESET}}$	L	I	RESET
18	P74	CDCHK	H	I/O	CD changer reset/existence detect
19	P73	CDMUTE	H	I	Mute signal input from CD changer
20	AV_{SS}	GND	—	—	
21	P17/ANI7	ENCODEUP	—	I	Input from pulse encoder
22	P16/ANI6	ENCODEDN	—	I	Input from pulse encoder
23	P15/ANI5	MECH-FULL	—	I	Selection of cassette mechanism
24	P14/ANI4	AREA	—	I	Selection of destination
25	P13/ANI3	KEY1	—	I	Key input terminal (A/D)
26	P12/ANI2	KEY2	—	I	Key input terminal (A/D)
27	P11/ANI1	KEY3	—	I	Key input terminal (A/D)
28	P10/ANI0	VSM	—	I	VSM input terminal
29	AV_{DD}	VDD (A/D)	—	—	
30	AV_{REF}	AV_{REF}	—	—	
31	P04/XT1	SUB X'TAL	—	—	
32	XT2	SUB X'TAL	—	—	
33	V_{SS}	GND	—	—	
34	X1	X'TAL	—	—	
35	X2	X'TAL	—	—	

Pin No.	Port Name	Name	Active	I/O	Description
36	P37	PLLDS	L	O	PLL communication timing signal output
37	P36/BUZ	BEEP	—	O	BEEP output terminal
38	P35	PLLCLK	—	O	PLL serial clock output
39	P34	PLLDATA	—	I/O	PLL serial data output
40	P33	MECHCLK	—	O	Serial clock output to mecha µ-COM
41	P32	MECHDI	—	I	Serial clock input from mecha µ-COM
42	P31	MECHDO	—	O	Serial data output to mecha µ-COM
43	P30	MECHCE	—	O	Mecha µ-COM communication timing output
44	P03/INTP3	RDSSTART	L	I	Communication timing signal input from LC7070
45	P02/INTP2	LCDREMC	H	O	LCD display control output
46	P01/INTP1	STBY	L	I	ACC detect input
47	P00/INTP0	REMOCON	—	I	Remote control input terminal
48	IC (V_{FF})	GND	—	—	
49	P72	VCC CONT	—	O	Mecha µ-COM+B control
50	P71	LCDSDA	—	I/O	Serial data input/output with PCF 8576
51	P70	LCDCLK	—	O	Serial clock output to PCF 8576
52	VDD	VDD	—	—	
53	P127	NC	—	—	
54	P126	NC	—	—	
55	P125	SD	L	I	SD detect input
56	P124	ST	L	I	ST detect input
57	P123	SRAMCE	L	O	Communication timing signal output with SRAM
58	P122	SSP_STBR	—	O	Strobe signal output to NJU3713
59	P121	SSP_CLK	—	O	Serial clock output to NJU3713
60	P120	SSP_DATA	—	O	Serial data output to NJU3713
61	P117	SRAMI08	—	I/O	SRAM data input/output
62	P116	SRAMI07	—	I/O	SRAM data input/output
63	P115	SRAMI06	—	I/O	SRAM data input/output
64	P114	SRAMI05	—	I/O	SRAM data input/output
65	P113	SRAMI04	—	I/O	SRAM data input/output
66	P112	SRAMI03	—	I/O	SRAM data input/output
67	P111	SRAMI02	—	I/O	SRAM data input/output
68	P110	SRAMI01	—	I/O	SRAM data input/output
69	P107	SRAMWE	L	O	SRAM control signal output
70	P106	SRAMOE	L	O	SRAM control signal output
71	V_{LOAD}	GND	—	—	
72	P105	NC	—	O	
73	P104	FF	L	O	Detect output for tape forwarding state
74	P103	B/C	L	O	DOLBY control signal output (B:L, C:H)
75	P102	DOLBY	H	O	DOLBY control signal output (ON:H, OFF:L)
76	P101	R/T	H	O	Audio output control signal output (RADIO:H, TAPE:L)
77	P100	CD	H	O	Audio output control signal output (CD:H, ELSE:L)
78	P97	VRDI	—	O	Serial data output to LC7537
79	P96	VRCLK	—	O	Serial clock output to LC7537
80	P95	VRCE	—	O	Communication timing signal output with LC7537

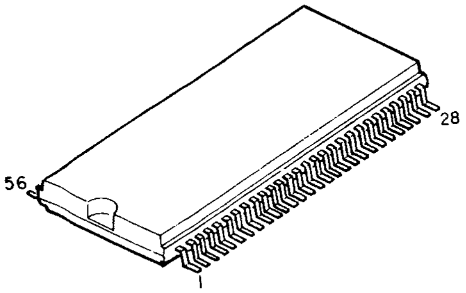
ISU60L (Remocon Receiver) (IC703,

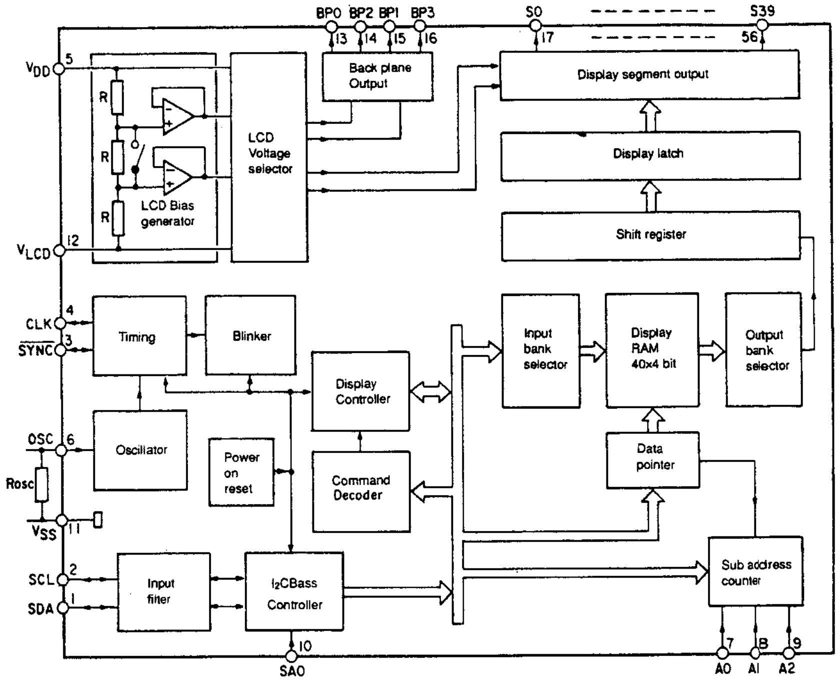


1: Vout
2: GND
3: Vcc

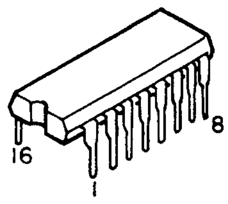

22k ohm
Amp
Limiter
B.P.F.
Demodulator
Comparator
GND
Vcc
$\overline{\text{Vout}}$

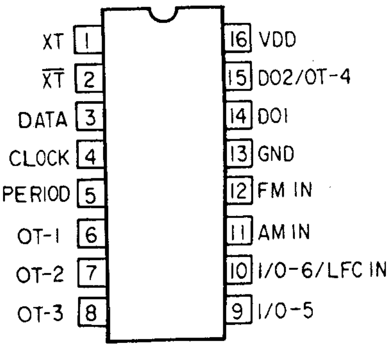
PCF8576T
(IC702)

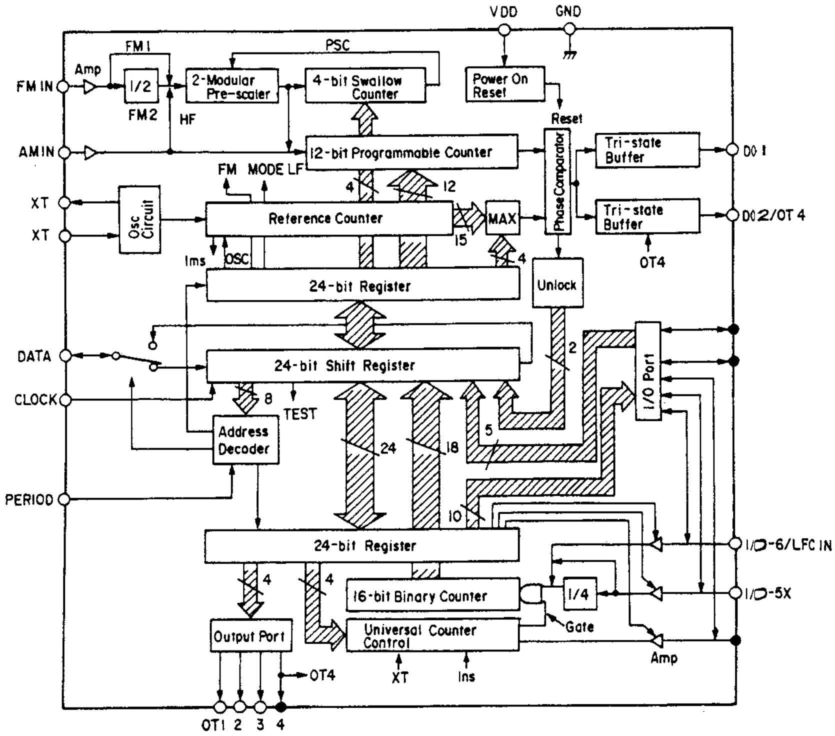



BP0
BP2
BP1
BP3
13
14
15
16
S0
17
S39
56
VDD
5
VLCD
12
R
R
R
LCD Bias generator
LCD Voltage selector
Back plane Output
Display segment output
Display latch
Shift register
CLK
4
SYNC
3
Timing
Blinker
Display Controller
Input bank selector
Display RAM 40x4 bit
Output bank selector
OSC
6
Rosc
Oscillator
Power on reset
Command Decoder
Data pointer
VSS
11
SCL
2
SDA
1
Input filter
I2CBass Controller
Sub address counter
10
SAO
7
8
9
A0
A1
A2

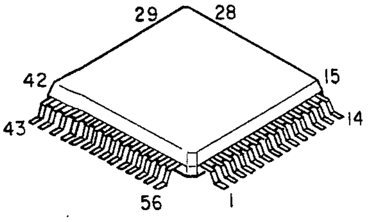
TC9216P
(IC402)

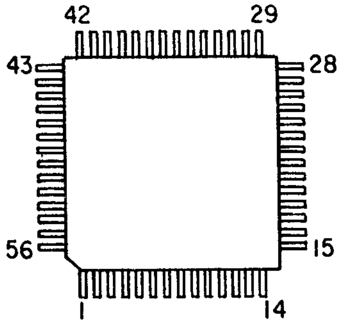


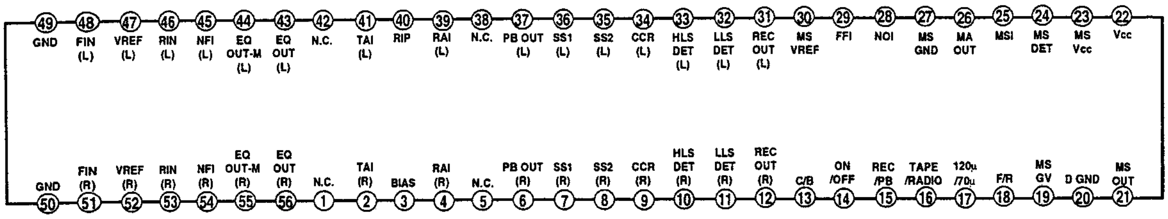

XT 1
XT 2
DATA 3
CLOCK 4
PERIOD 5
OT-1 6
OT-2 7
OT-3 8
16 VDD
15 DO2/OT-4
14 DO1
13 GND
12 FM IN
11 AM IN
10 I/O-6/LFC IN
9 I/O-5


VDD
GND
FM1
PSC
FM IN
Amp
1/2
FM2
HF
2-Modular Pre-scaler
4-bit Swallow Counter
Power On Reset
Reset
AM IN
12-bit Programmable Counter
FM
MODE LF
4
12
Phase Comparator
Tri-state Buffer
DO 1
XT
XT
Osc Circuit
Reference Counter
MAX
15
4
Tri-state Buffer
DO2/OT 4
OT4
Ims
OSC
24-bit Register
Unlock
DATA
24-bit Shift Register
2
I/O Port
CLOCK
8
TEST
Address Decoder
24
18
5
PERIOD
10
24-bit Register
I/O-6/LFC IN
4
4
16-bit Binary Counter
1/4
I/O-5X
Gate
Output Port
Universal Counter Control
Amp
OT4
XT
Ins
OT1
2
3
4

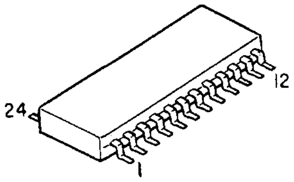
HA12174 (IC601)


29
28
42
15
43
14
56
1

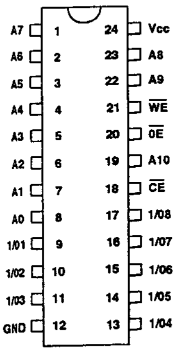

42
29
43
28
56
15
1
14

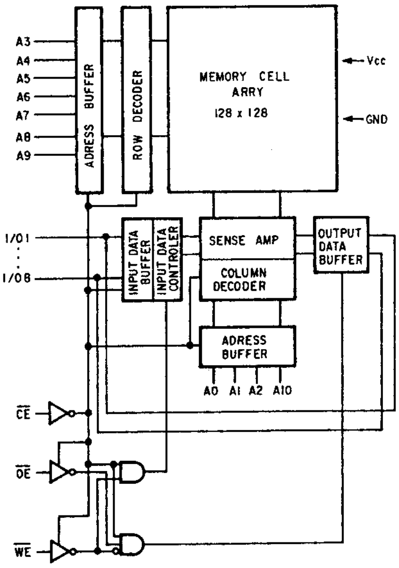

㊾ GND
㊽ FIN (L)
㊼ VREF (L)
㊻ RIN (L)
㊺ NFI (L)
㊹ EQ OUT-M (L)
㊸ EQ OUT (L)
㊷ N.C.
㊶ TAI (L)
㊵ RIP
㊴ RAI (L)
㊳ N.C.
㊲ PB OUT (L)
㊱ SS1 (L)
㉟ SS2 (L)
㉞ CCR (L)
㉝ HLS DET (L)
㉜ LLS DET (L)
㉛ REC OUT (L)
㉚ MS VREF
㉙ FFI
㉘ NOI
㉗ MS GND
㉖ MA OUT
㉕ MSI
㉔ MS DET
㉓ MS Vcc
㉒ Vcc
㊿ GND
(51) FIN (R)
(52) VREF (R)
(53) RIN (R)
(54) NFI (R)
(55) EQ OUT-M (R)
(56) EQ OUT (R)
① N.C.
② TAI (R)
③ BIAS
④ RAI (R)
⑤ N.C.
⑥ PB OUT (R)
⑦ SS1 (R)
⑧ SS2 (R)
⑨ CCR (R)
⑩ HLS DET (R)
⑪ LLS DET (R)
⑫ REC OUT (R)
⑬ C/B
⑭ ON /OFF
⑮ REC /PB
⑯ TAPE /RADIO
⑰ 120µ /70µ
⑱ F/R
⑲ MS GV
⑳ D GND
㉑ MS OUT

LC3517 (IC903)



TOP VIEW


A7 1
A6 2
A5 3
A4 4
A3 5
A2 6
A1 7
A0 8
1/01 9
1/02 10
1/03 11
GND 12
24 Vcc
23 A8
22 A9
21 WE
20 OE
19 A10
18 CE
17 1/08
16 1/07
15 1/06
14 1/05
13 1/04


A3
A4
A5
A6
A7
A8
A9
ADRESS BUFFER
ROW DECODER
MEMORY CELL ARRY
128 x 128
Vcc
GND
1/01
1/08
INPUT DATA BUFFER
INPUT DATA CONTROLER
SENSE AMP
COLUMN DECODER
OUTPUT DATA BUFFER
ADRESS BUFFER
A0
A1
A2
A10
CE
OE
WE

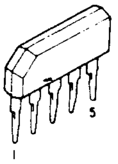
A0 - A10	Address input
$\overline{WE}$	Read/Write control input
$\overline{OE}$	Output enable input
$\overline{CE}$	Chip enable input
I/O 1 - I/O 8	Data input/output
V_{CC}/GND	Power terminal

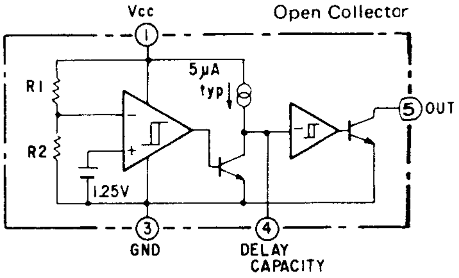
FUNCTION TABLE

Mode	CE	OE	WE	I/O	Power current
Read cycle	L	L	H	Data output	I_{CCA}
Write cycle	L	X	L	Data input	I_{CCA}
Output disable	L	H	X	High impedance	I_{CCA}
Non-selection	H	X	X	High impedance	I_{CCS}

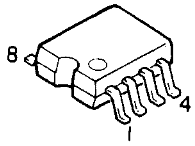
X: H or L

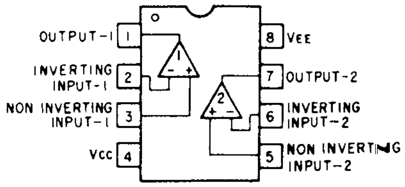
M51953B
(IC904)



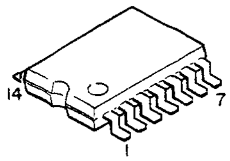

Vcc
Open Collector
①
R1
R2
5µA
typ
1.25V
⑤ OUT
③
GND
④
DELAY CAPACITY

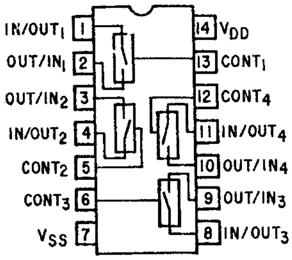
M5218AFP
(IC201~205, 604)



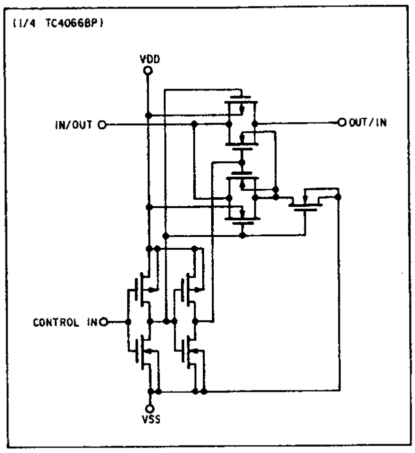

OUTPUT-1 1
INVERTING INPUT-1 2
NON INVERTING INPUT-1 3
Vcc 4
8 VEE
7 OUTPUT-2
6 INVERTING INPUT-2
5 NON INVERTING INPUT-2
1
2

TC4066BP
(IC602)

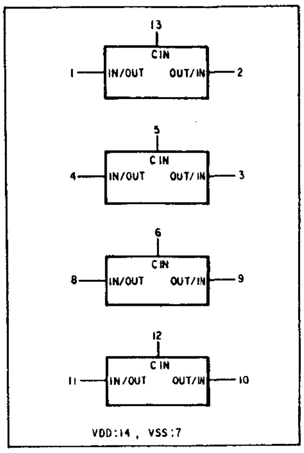



IN/OUT1 1
OUT/IN1 2
OUT/IN2 3
IN/OUT2 4
CONT2 5
CONT3 6
VSS 7
14 VDD
13 CONT1
12 CONT4
11 IN/OUT4
10 OUT/IN4
9 OUT/IN3
8 IN/OUT3

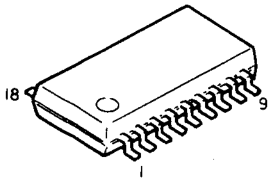
SCHEMATIC DIAGRAM

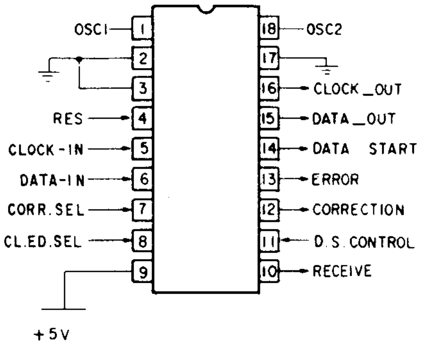

(1/4 TC4066BP)
VDD
IN/OUT
OUT/IN
CONTROL IN
VSS

BLOCK DIAGRAM

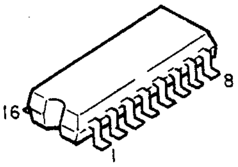

13
CIN
1
IN/OUT
OUT/IN
2
5
CIN
4
IN/OUT
OUT/IN
3
6
CIN
8
IN/OUT
OUT/IN
9
12
CIN
11
IN/OUT
OUT/IN
10
VDD:14 , VSS:7

LC7070NM
(IC302)

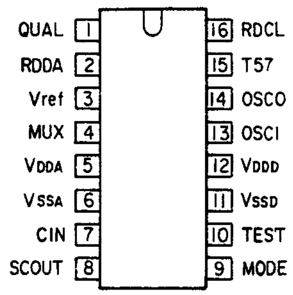



OSC1 1
2
3
RES 4
CLOCK-IN 5
DATA-IN 6
CORR.SEL 7
CL.ED.SEL 8
9
+5V
18 OSC2
17
16 CLOCK_OUT
15 DATA_OUT
14 DATA START
13 ERROR
12 CORRECTION
11 D.S.CONTROL
10 RECEIVE

SAA6579T
(IC301)

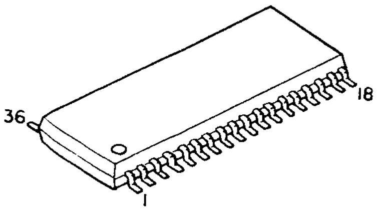


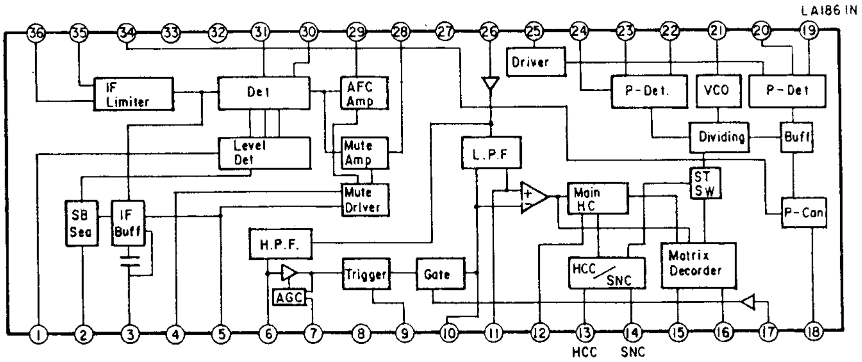
SYMBOL	PIN	DESCRIPTION
QUAL	1	Quality indication output
RDDA	2	RDS data output
Vref	3	Reference voltage output (0.5 V_{DDA})
MUX	4	Multiplex signal input
V_{DDA}	5	+5V supply voltage for analog part
V_{SSA}	6	Ground for analog part (0V)
CIN	7	Subcarrier input to comparator
SCOUT	8	Subcarrier output of reconstruction filter
MODE	9	Oscillation mode/test control input
TEST	10	Test enable input
V_{SSD}	11	Ground for digital part (0V)
V_{DDD}	12	+5V supply voltage for digital part
OSCI	13	Oscillator input
OSCO	14	Oscillator output
T57	15	57kHz clock signal output
RDCL	16	RDS clock output


QUAL 1
RDDA 2
Vref 3
MUX 4
VDDA 5
VSSA 6
CIN 7
SCOUT 8
16 RDCL
15 T57
14 OSCO
13 OSCI
12 VDDD
11 VSSD
10 TEST
9 MODE

Pin configuration

LA1862M
(IC403)

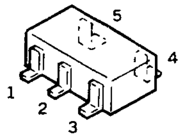



LA186IN
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
21
20
19
IF Limiter
Det
AFC Amp
Driver
P-Det.
VCO
P-Det
Level Det
Mute Amp
L.P.F
Dividing
Buff
Mute Driver
Main HC
ST SW
SB Seo
IF Buff
P-Con
H.P.F.
HCC SNC
Matrix Decorder
AGC
Trigger
Gate
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
HCC
SNC

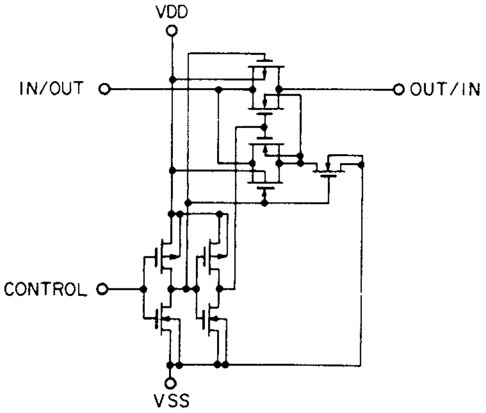
LM1862M Terminal Function

Pin No.	Function	Pin No.	Function
1	S-Meter output terminal.	19	Pilot detector.
2	IF buffer sensitivity control.	20	Pilot detector.
3	IF buffer output terminal.	21	VCO
4	Mute starting point control.	22	Phase detector.
5	Mute drive control terminal.	23	Phase detector.
6	Noise sensitivity control.	24	PLL input terminal.
7	Noise AGC sensitivity control.	25	Stereo indicator lamp terminal.
8	Vcc	26	Noise canceller input.
9	Gate time control terminal.	27	GND.
10	Memory circuit.	28	Muting amp output terminal. (AF output)
11	LFP output.	29	AFC output terminal.
12	High-cut attenuator control.	30	Peak detector input.
13	HCC control input.	31	IF output.
14	SNC control input.	32	Muting attenuator control.
15	MPX left output.	33	Regulator output.
16	MPX right output.	34	Pilot cancel signal detector.
17	Pilot cancel signal input.	35	IF bias.
18	Pilot cancel signal output.	36	IF input.

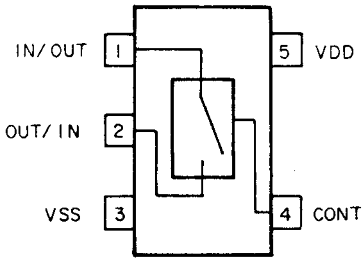
TC4S66F
(IC401)



1:IN/OUT
2:OUT/IN
3:VSS
4:CONT
5:VDD


VDD
IN/OUT
OUT/IN
CONTROL
VSS

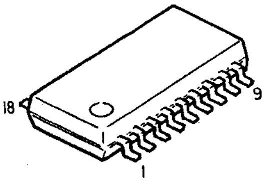
PIN ASSIGNMENT (TOP VIEW)

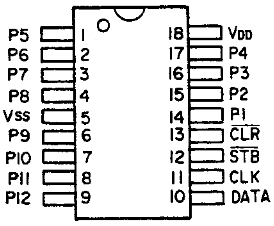

IN/OUT
1
OUT/IN
2
VSS
3
5
VDD
4
CONT

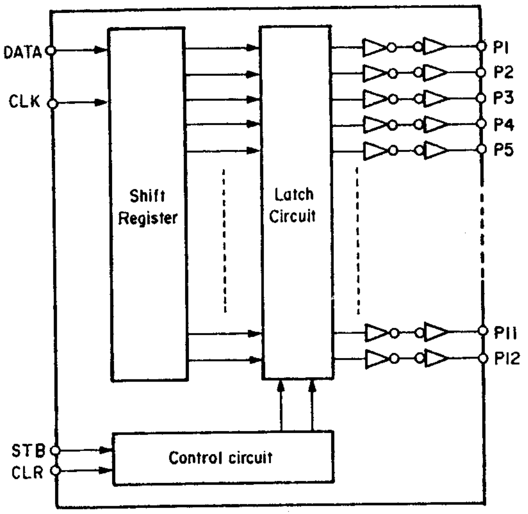
TRUTH VALUE TABLE

CONTROL	Impedance Between IN/OUT–OUT/IN
H	0.5 ~ 5 × 10^2 ohm
L	>10^9 ohm

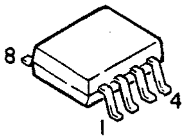
NJU3713G
(IC902)

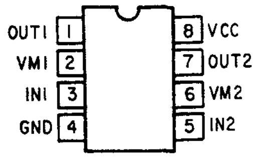


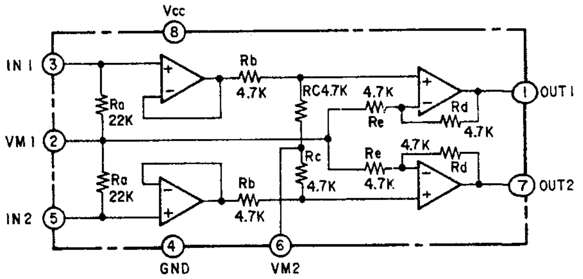

P5 1
P6 2
P7 3
P8 4
Vss 5
P9 6
P10 7
P11 8
P12 9
18 VDD
17 P4
16 P3
15 P2
14 P1
13 CLR
12 STB
11 CLK
10 DATA


DATA
CLK
Shift Register
Latch Circuit
P1
P2
P3
P4
P5
P11
P12
STB
CLR
Control circuit

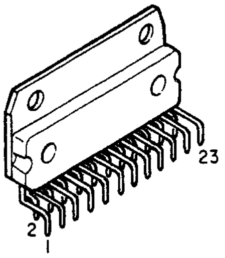
M5280FP
(IC603)

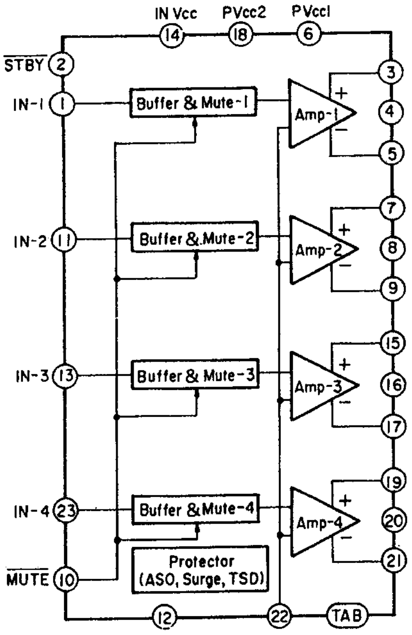



OUT1 1
VM1 2
IN1 3
GND 4
8 VCC
7 OUT2
6 VM2
5 IN2

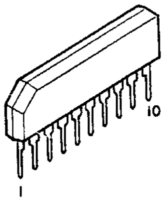

Vcc
8
IN 1 3
Ra 22K
VM 1 2
Ra 22K
IN 2 5
Rb 4.7K
RC4.7K
Rb 4.7K
Rc 4.7K
4.7K Re
Rd 4.7K
Re 4.7K
4.7K Rd
1 OUT1
7 OUT2
4 GND
6 VM2

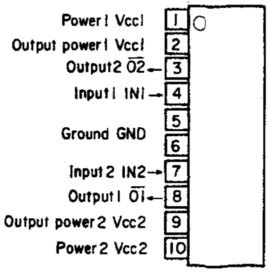
HA13150
(IC501)

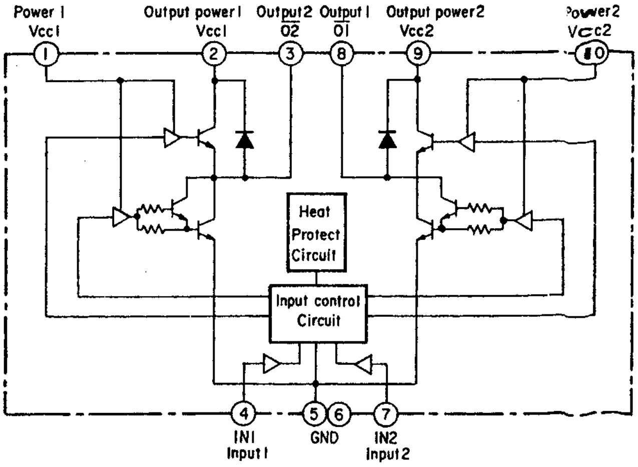



IN Vcc 14
PVcc2 18
PVcc1 6
STBY 2
IN-1 1
IN-2 11
IN-3 13
IN-4 23
MUTE 10
Buffer & Mute-1
Buffer & Mute-2
Buffer & Mute-3
Buffer & Mute-4
Amp-1
Amp-2
Amp-3
Amp-4
Protector (ASO, Surge, TSD)
3
4
5
7
8
9
15
16
17
19
20
21
12
22
TAB

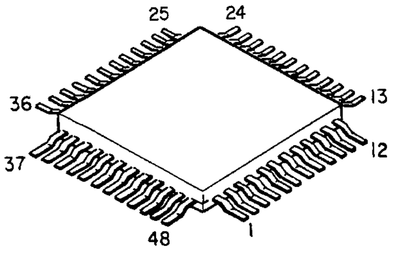
M54543ASL
(IC102)

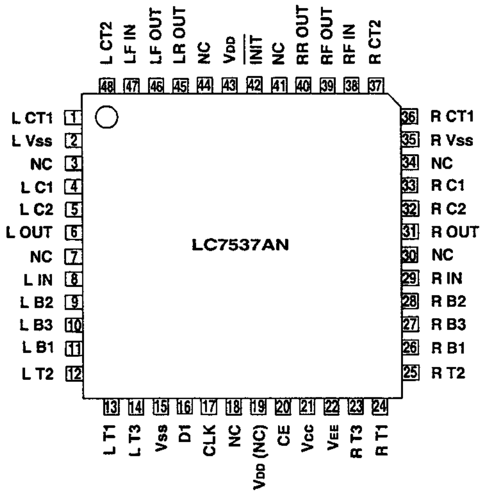


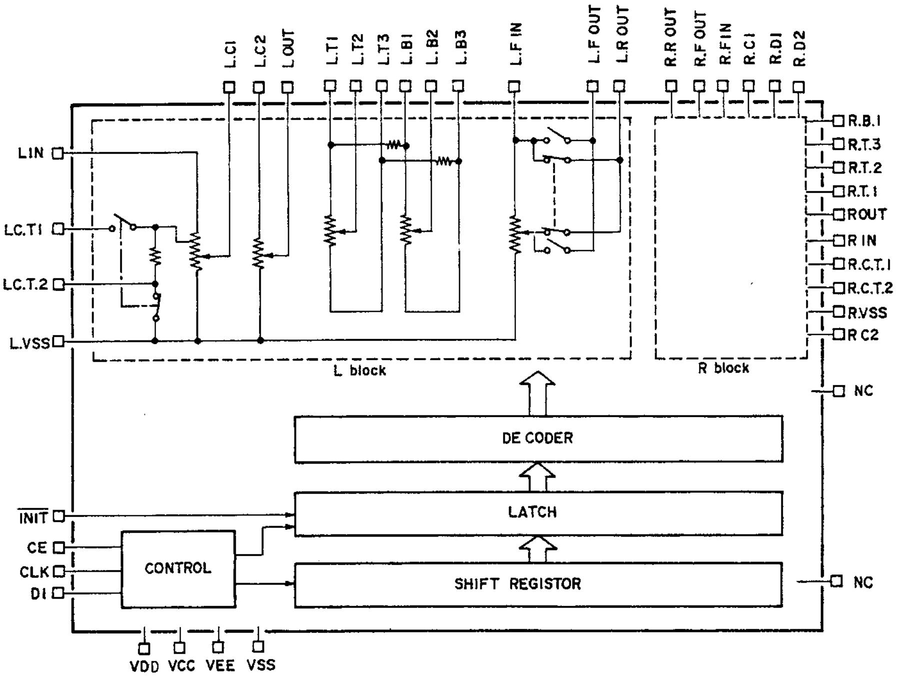

Power1 Vcc1 1
Output power1 Vcc1 2
Output2 O2 3
Input1 IN1 4
Ground GND 5
6
Input2 IN2 7
Output1 O1 8
Output power2 Vcc2 9
Power2 Vcc2 10


Power1 Vcc1 1
Output power1 Vcc1 2
Output2 O2 3
Output1 O1 8
Output power2 Vcc2 9
Power2 Vcc2 10
Heat Protect Circuit
Input control Circuit
4 IN1 Input1
5 6 GND
7 IN2 Input2

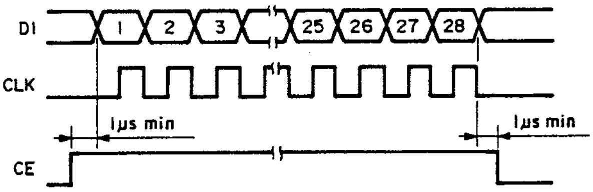
LC7537AN
(IC206)

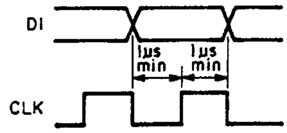

25
24
36
13
37
12
48
1


LC7537AN
1 L CT1
2 L Vss
3 NC
4 L C1
5 L C2
6 L OUT
7 NC
8 L IN
9 L B2
10 L B3
11 L B1
12 L T2
13 L T1
14 L T3
15 Vss
16 D1
17 CLK
18 NC
19 VDD (NC)
20 CE
21 Vcc
22 VEE
23 R T3
24 R T1
25 R T2
26 R B1
27 R B3
28 R B2
29 R IN
30 NC
31 R OUT
32 R C2
33 R C1
34 NC
35 R Vss
36 R CT1
37 R CT2
38 RF IN
39 RF OUT
40 RR OUT
41 NC
42 INIT
43 VDD
44 NC
45 LR OUT
46 LF OUT
47 LF IN
48 L CT2

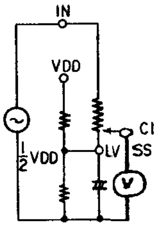
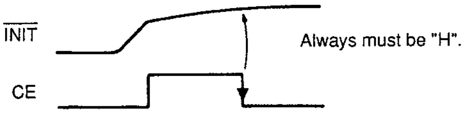
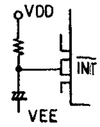
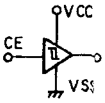
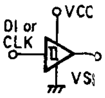

L.CI
L.C2
L OUT
L.T1
L.T2
L.T3
L.BI
L.B2
L.B3
L.F IN
L.F OUT
L.R OUT
R.R OUT
R.F OUT
R.F IN
R.CI
R.DI
R.D2
LIN
LC.T1
LC.T.2
L.VSS
L block
R block
R.B.I
R.T.3
R.T.2
R.T.1
ROUT
R IN
R.C.T.I
R.C.T.2
R.VSS
R C2
NC
DE CODER
LATCH
SHIFT REGISTOR
CONTROL
INIT
CE
CLK
DI
NC
VDD
VCC
VEE
VSS

Timing of Control System


DI
1
2
3
25
26
27
28
CLK
1μs min
1μs min
CE

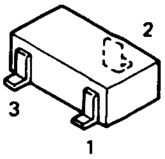

DI
1μs min
1μs min
CLK

TERMINAL FUNCTION

Pin No.	Symbol	Function	Remarks
8 29	L. IN R. IN	Input terminal of 5dB step attenuator of main volume section. Drive at low impedance.	
4 33	L. C1 R. C1	Output terminal of 5dB stop attenuator of main volume section. As the step position is designed as open position, step errors may be occurred when receiving impedance is too low. Receive at higher impedance as much as possible.	Total resistance 20kohm
5 32	L. C2 R. C2	Input terminal of 1dB step attenator of main volume section. Drive at low impedance.	
6 31	L. OUT R. OUT	Output terminal of 1dB step attenator of main volume section. As the step position is designed as open position, receive at high impedance as much as possible as in cases of LC1, RC1.	Total resistance 20kohm
47 38	L. FIN R. FIN	Input terminal when using fader function. Drive at low impedance.	
46 45 39 40	L. FOUT L. ROUT R. FOUT R. ROUT	Output terminal of fader section. Able to attenuate front side and rear side respectively. The attenuation volume is same as to R/L. As the step position is designed as open position, receive at high impedance as much as possible as in cases of LC1, RC1.	Total resistance 20kohm
11 9 10 26 28 27	L. B1 L. B2 L. B3 R. B1 R. B2 R. B3	Terminal of tone bass section. 2dB step attenator, 15 positions.	Total resistance 20kohm
13 12 14 24 25 23	L. T1 L. T2 L. T3 R. T1 R. T2 R. T3	Terminal of tone treble section. 2dB step attenator, 15 positions.	Total resistance 20kohm
1 48 36 37	LCT1 LCT2 RCT1 RCT2	Terminal for loudness. Connect capacitor for high frequency compensation across CT1 ~ IN, and connect capacitor for low frequency compensation across CT2 ~ LV_{SS} (RV_{SS}).	
2 35	L. V_{SS} R. V_{SS}	Common terminal for fader volume in main volume section. Avoid impedance of connection pattern as shown in this figure, as much as possible. As L. V_{SS}, R. V_{SS}, V_{SS} are not internally connected, connect externally in conformity with each specification. Especially in case of one-sided power source, the capacitor between V_{SS} (RV_{SS}) ~ V_{SS} becomes residual resistant component; pay full attention to the capacitor capacity.	
42	$\overline{\text{INIT}}$	Reset terminal for latch inside IC.  When power is ON, VR set data of internal latch is undetermined; if this terminals is turned to "L" at power on, fader volume position of main volume is set to $-\infty$ and operates muting (Note: V_{DD} ~ VEE level).	
20	CE	Chip enable terminal. Following to turning of "H" → "L" shift, data will be written in internal latch and each analog switch moves. At "H" level, data transfer becomes enable.	
16 17	DI CLK	Input terminal of serial data and clock for control.	
43 21 15 22	V_{DD} VCC V_{SS} VEE	Terminal connecting each power source. Beware that VCC should not rise prior to V_{DD}.	
3, 7, 18, 30, 34, 41, 44	NC	No connection pin. Do not connect anything.	
19	V_{DD} (NC)	V_{DD}-subterminal. Connect to V_{DD} or use opened.	

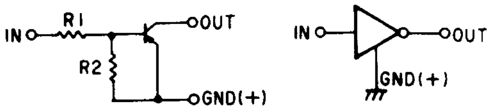
● TRANSISTORS

Digital Transistor (Including Resistors)



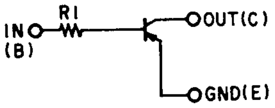
1: GND/Emitter
2: Out/Collector
3: In/Base

DTA EK Series


IN
R1
OUT
R2
GND(+)
IN
OUT
GND(+)

	R1	R2
DTA114EK	10Kohm	10Kohm
DTA115EK	100Kohm	100Kohm
DTA143EK	4.7Kohm	4.7Kohm

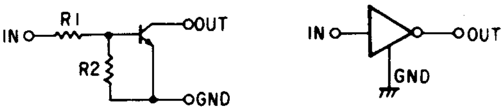
DTA TK Series


IN
(B)
R1
OUT(C)
GND(E)

	R1
DTA144TK	10Kohm

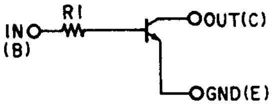
DTA114EK
DTA115EK
DTA143EK
DTA144TK
DTC114EK
DTC143EK
DTC144EK
DTC144TK
DTC314TK

DTC EK Series


IN
R1
OUT
R2
GND
IN
OUT
GND

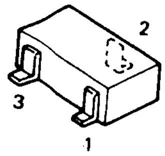
	R1	R2
DTC114EK	10Kohm	10Kohm
DTC143EK	4.7Kohm	4.7Kohm
DTC144EK	47Kohm	47Kohm

DTC TK Series


IN
(B)
R1
OUT(C)
GND(E)

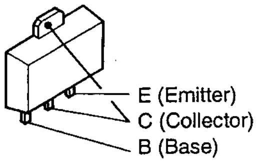
	R1
DTC144TK	47Kohm
DTC314TK	10Kohm

2SA1037K (S/R)
2SC2412K (S)
2SA1036K (S/R)

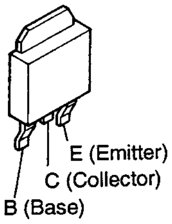


1: Emitter/GND
2: Collector/OUT
3: Base/IN

2SB956 (R)
2SD874 (R)

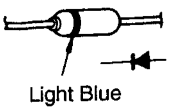

E (Emitter)
C (Collector)
B (Base)

2SB968 (R)
2SB1182 (R)
2SD1758 (R)

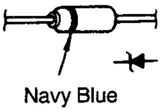

E (Emitter)
C (Collector)
B (Base)

● DIODES (including LED)

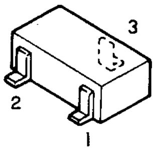
1SS270A

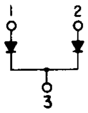


HZS4C-1 HZS7C-1
HZS3C-1 HZS6B-1
HZS5B-1 HZS9C-1
HZS11B-11



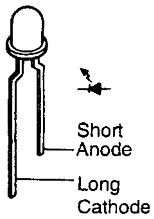
MA151WK



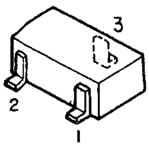


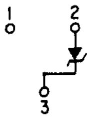
1: Anode
2: Anode
3: Cathode

SEL2210R
(Red)


Short
Anode
Long
Cathode

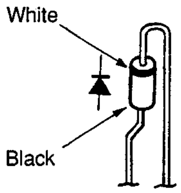
02CZ7.5Y



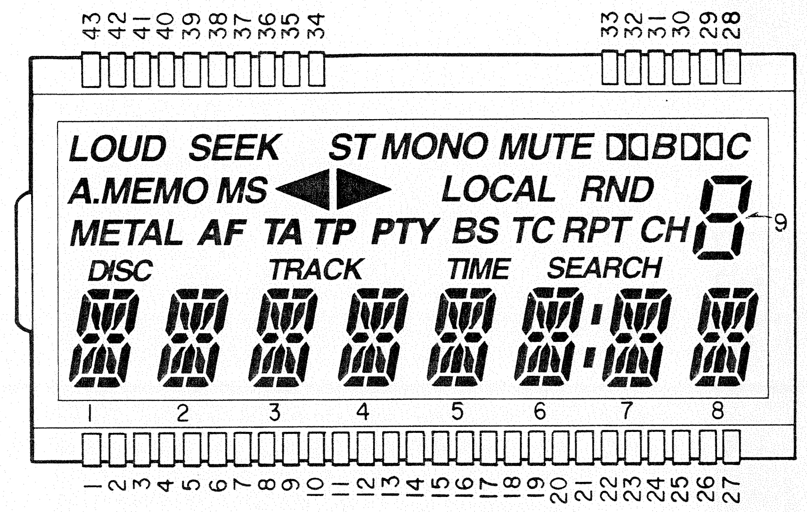


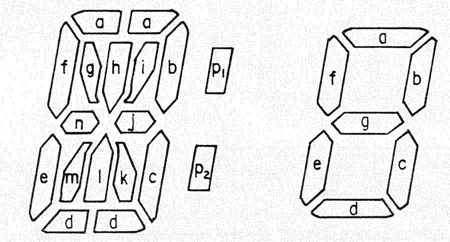
1: Open
2: Anode
3: Cathode

DSM1D2 (Type 3)


White
Black

- LCD ASS'Y (SLU1875) LD701
Parts No. 393 6003 107


43 42 41 40 39 38 37 36 35 34
33 32 31 30 29 28
LOUD SEEK ST MONO MUTE DDB DDC
A.MEMO MS LOCAL RND
METAL AF TA TP PTY BS TC RPT CH
9
DISC TRACK TIME SEARCH
1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27


a
a
f
g
h
i
b
P1
n
j
e
m
l
k
c
P2
d
d
a
f
b
g
e
c
d

WIRING TABLE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
com1	LOUD	SEEK	1d	1c	DISK	METAL	2d	2c	A.MEMO	AF	3d	3c	MS	TRACK	4d	4c	TA	TP
com2	1e	1m	1l	1k	2e	2m	2l	2k	3e	3m	3l	3k	4e	4m	4l	4k	5e	5m
com3	1n	1g	1h	1j	2n	2g	2h	2j	3n	3g	3h	3j	4n	4g	4h	4j	5n	5g
com4	1f	1a	1i	1b	2f	2a	2i	2b	3f	3a	3i	3b	4f	4a	4i	4b	5f	5a

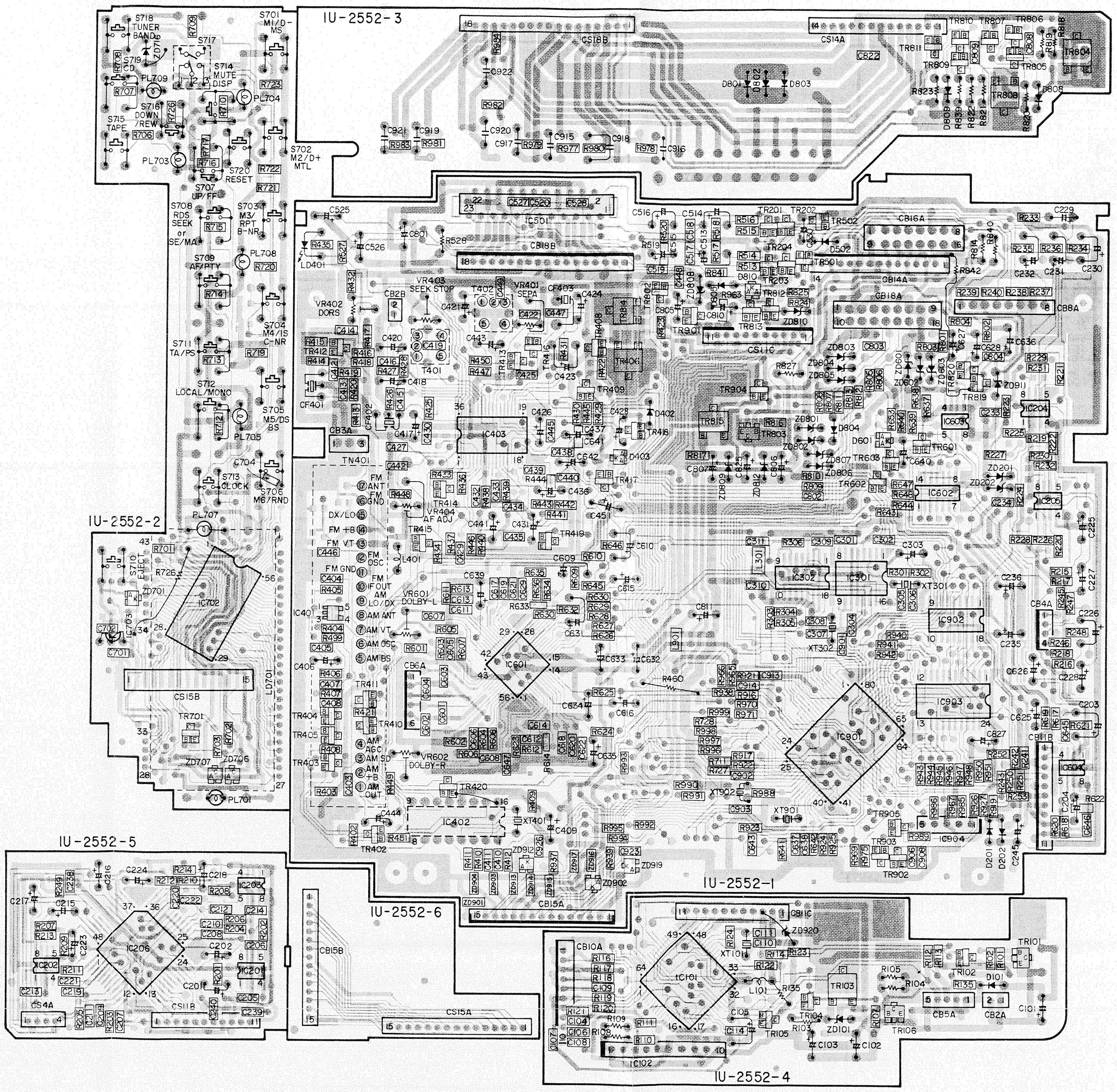
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
com1	5d	5c	TIME	PTY	6d	6c	P2	—	7d	7c	—	—	8d	8c	9a	DD C	DD B	MUTE
com2	5l	5k	6e	6m	6l	6k	7e	7m	7l	7k	8e	8m	8l	8k	9b	9f	RND	LOCAL
com3	5h	5j	6n	6g	6h	6j	7n	7g	7h	7j	8n	8g	8h	8j	9c	9g	CH	RPT
com4	5i	5b	6f	6a	6i	6b	7f	7a	7i	7b	8f	8a	8i	8b	9d	9e	SEARCH	P1

	37	38	39	40	41	42	43
com1	ST	▶	◀	—	—	—	com1
com2	MONO	—	—	—	—	com2	—
com3	TC	—	—	—	com3	—	—
com4	BS	—	—	com4	—	—	—

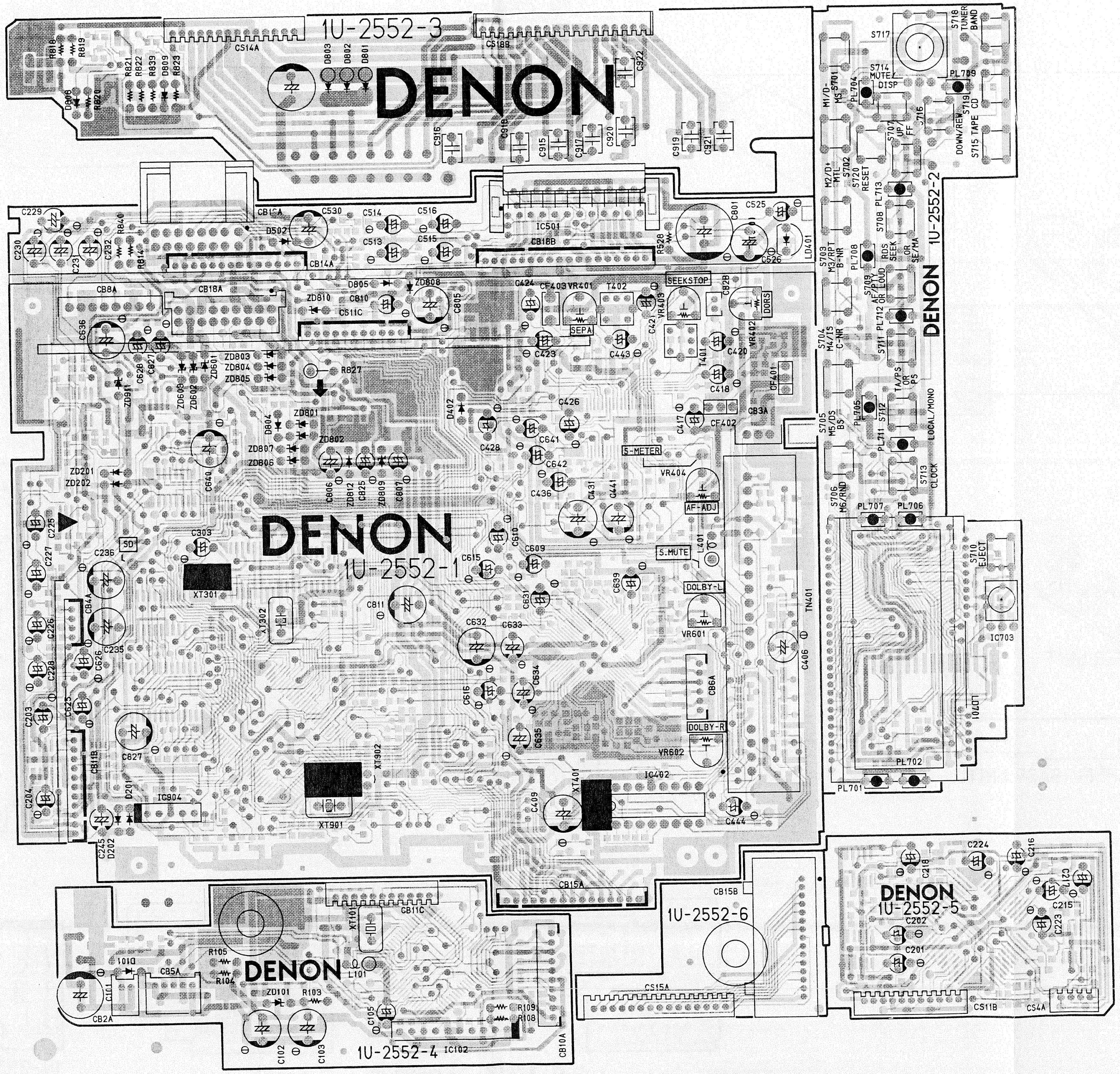
PRINTED WIRING BOARD

1U-2552 MAIN UNIT ASS'Y

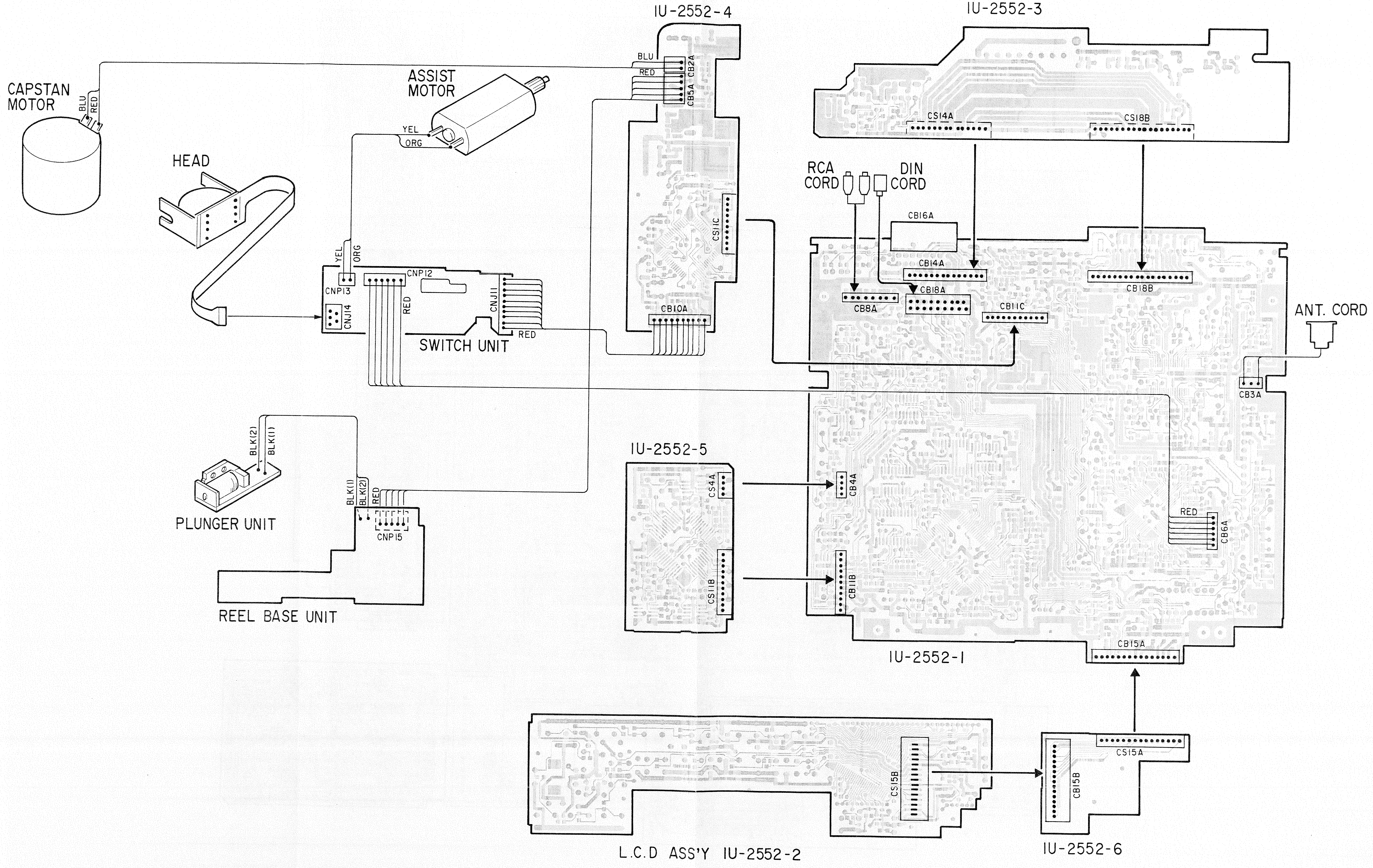
Pattern Side


IU-2552-1
IU-2552-2
IU-2552-3
IU-2552-4
IU-2552-5
IU-2552-6
S718 TUNER BAND
S701 M1/D-MS
S717
S714 MUTE DISP
S716 DOWN /REW
S715 TAPE
S720 RESET
S702 M2/D+ MTL
S707 UP/FF
S708 RDS SEEK or SE/MA
S703 M3/RPT B-NR
S709 AF/PTY
S704 M4/IS C-NR
S711 TA/PS
S712 LOCAL/MONO
S705 M5/DS BS
S713 CLOCK
S706 M6/RND
VR401 SEPA
VR402 DORS
VR403 SEEK STOP
VR404 AF ADJ
VR601 DOLBY-L
VR602 DOLBY-R
IC101
IC102
IC201
IC202
IC204
IC205
IC206
IC301
IC302
IC401
IC402
IC403
IC601
IC602
IC603
IC604
IC702
IC801
IC901
IC902
IC903
IC904
TN401
LD401
LD701
XT101
XT301
XT302
XT401
XT901
XT902
CS15A
CS15B
CS11B
CS11C
CS14A
CS16A
CS18B
CB5A
CB2A
CB10A
CB15A
CB15B
CB16A
CB6A
CB8A
CB3A
CB4A
CB11B
CB14A
CB18A
CS4A
TR101
TR103
TR105
TR106
TR401
TR402
TR403
TR404
TR405
TR408
TR409
TR410
TR411
TR412
TR414
TR415
TR416
TR417
TR418
TR420
TR601
TR602
TR603
TR701
TR801
TR802
TR803
TR804
TR805
TR806
TR807
TR808
TR809
TR810
TR811
TR812
TR813
TR815
TR819
TR820
TR823
TR901
TR902
TR903
TR904
TR905
PL701
PL703
PL704
PL705
PL707
PL708
PL709
D801
D802
D803
D804
D805
D402
D403
D601
D101
D201
D202
ZD101
ZD701
ZD706
ZD707
ZD801
ZD802
ZD803
ZD804
ZD805
ZD806
ZD807
ZD810
ZD901
ZD902
ZD919
ZD920
ZD201
ZD202
T401
T402
L101
L301
L401
FM ANT
FM GND
DX/LO
FM +B
FM VT
FM OSC
FM GND
FM IF OUT
AM LO/DX
AM ANT
AM VT
AM OSC
AM BS
AM AGC
AM SD
AM +B
AM OUT

Component Side


1U-2552-1
1U-2552-2
1U-2552-3
1U-2552-4
1U-2552-5
1U-2552-6
DENON

WIRING DIAGRAM


IU-2552-4
IU-2552-3
CAPSTAN MOTOR
BLU
RED
ASSIST MOTOR
YEL
ORG
BLU
RED
CB2A
CB5A
HEAD
CS11C
CS14A
CS18B
RCA CORD
DIN CORD
CB16A
CB14A
CB18A
CB8A
CB11C
CB18B
ANT. CORD
CB3A
YEL
ORG
CNP12
CNP13
CNJ14
RED
CNJ11
RED
SWITCH UNIT
CB10A
BLK(2)
BLK(1)
PLUNGER UNIT
BLK(1)
BLK(2)
RED
CNP15
REEL BASE UNIT
IU-2552-5
CS4A
CB4A
CS11B
CB11B
RED
CB6A
IU-2552-1
CB15A
CS15A
CS15B
CB15B
L.C.D ASS'Y IU-2552-2
IU-2552-6

IC's AND TRANSISTORS VOLTAGE VALUES

IC101 (HD404418)

Pin	FM	CASSETTE
1	4.8V	4.8V
2	4.8V	0V
3	4.8V	0V
4	4.8V	0V
5	4.8V	0V
6	4.8V	0V
7	4.8V	0V
8	4.8V	0V
9	4.8V	0V
10	0V	0V
11	0V	0V
12	0V	0V
13	1V	0.94V
14	1V	0.94V
15	4.8V	4.2V
16	0V	0V
17	4.8V	4.2V
18	0V	0V
19	0V	0V
20	0V	0V
21	0V	0V
22	0V	0V
23	0V	0V
24	4.8V	4.8V
25	4.7V	4.7V
26	4.8V	4.8V
27	4.6V	4.6V
28	0V	0V
29	0V	0V
30	0V	0V
31	0V	0V
32	0V	0V
33	0V	0V
34	0V	0V
35	0V	0V
36	0V	0V
37	0V	0V
38	0V	0V
39	0V	0V
40	0V	0V
41	0V	0V
42	4.7V	4.8V
43	2.1V	2.1V
44	2.2V	2.2V
45	0V	0V
46	0V	—
47	0V	—
48	0V	—
49	0V	—
50	0V	—
51	0V	—
52	0V	—
53	0V	—
54	0V	0V
55	0V	0V
56	0V	4.7V
57	0V	4.7V
58	0V	4.7V
59	0V	4.7V
60	4.7V	0V
61	0V	0V
62	4.7V	0V
63	0V	0V
64	0V	0V

IC102 (M54543ASL)

Pin	FM	AM	CASSETTE
1	1.2V	—	10V
2	1.1V	—	10V
3	1.2V	—	1.8V
4	0V	—	0V
5	0V	—	0V
6	0V	—	0V
7	0V	—	0V
8	0V	—	0.6V
9	0.8V	—	10V
10	0.8V	—	10V

IC201 (M5218AFP)

Pin	FM	AM	CASSETTE
1	4.7V	—	—
2	4.7V	—	—
3	4.3V	—	—
4	0V	—	—
5	4.3V	—	—
6	4.7V	—	—
7	4.7V	—	—
8	8.6V	—	—

IC202 (M5218AFP)

Pin	FM	AM	CASSETTE
1	4.7V	—	—
2	4.7V	—	—
3	4.7V	—	—
4	0V	—	—
5	4.3V	—	—
6	4.7V	—	—
7	4.7V	—	—
8	8.6V	—	—

IC203 (M5218AFP)

Pin	FM	AM	CASSETTE
1	4.7V	—	—
2	4.7V	—	—
3	4.3V	—	—
4	0V	—	—
5	4.7V	—	—
6	4.7V	—	—
7	4.7V	—	—
8	8.6V	—	—

IC204 (M5218AFP)

Pin	FM	AM	CASSETTE
1	4.7V	—	—
2	4.7V	—	—
3	4.7V	—	—
4	0V	—	—
5	4.7V	—	—
6	4.7V	—	—
7	4.7V	—	—
8	8.6V	—	—

IC205 (M5218AFP)

Pin	FM	AM	CASSETTE
1	4.7V	—	—
2	4.7V	—	—
3	4.6V	—	—
4	0V	—	—
5	4.6V	—	—
6	4.7V	—	—
7	4.7V	—	—
8	8.6V	—	—

IC206 (LC7537AN)

Pin	FM	AM	CASSETTE
1	4.7V	—	—
2	4.7V	—	—
3	4.6V	—	—
4	4.6V	—	—
5	0V	—	—
6	8.6V	—	—
7	8.6V	—	—
8	0V	—	—
9	4.7V	—	—
10	4.7V	—	—
11	4.7V	—	—
12	4.7V	—	—
13	4.3V	—	—
14	4.7V	—	—
15	0V	—	—
16	4.7V	—	—
17	4.7V	—	—
18	4.7V	—	—
19	0V	—	—
20	4.7V	—	—
21	4.7V	—	—
22	4.7V	—	—
23	4.7V	—	—
24	4.7V	—	—
25	4.7V	—	—
26	0V	—	—
27	0V	—	—
28	0V	—	—
29	0V	—	—
30	8.6V	—	—
31	8.7V	—	—
32	0V	—	—
33	4.9V	—	—
34	0V	—	—
35	4.7V	—	—
36	4.7V	—	—
37	4.7V	—	—
38	4.7V	—	—
39	4.7V	—	—
40	4.7V	—	—
41	4.7V	—	—
42	0.5V	—	—
43	4.7V	—	—
44	4.6V	—	—
45	4.7V	—	—
46	0V	—	—
47	4.7V	—	—
48	4.2V	—	—

IC301 (SAA6579T)

Pin	FM	AM	CASSETTE
1	1.3V	—	—
2	2.5V	—	—
3	2.4V	—	—
4	2.4V	—	—
5	4.9V	—	—
6	0V	—	—
7	2.4V	—	—
8	2.4V	—	—
9	0V	—	—
10	0V	—	—
11	0V	—	—
12	4.9V	—	—
13	2.4V	—	—
14	2.4V	—	—
15	2.4V	—	—
16	1.6V	—	—

IC302 (LC7070NM)

Pin	FM	AM	CASSETTE
1	2.2V	—	—
2	0V	—	—
3	0V	—	—
4	4.8V	—	—
5	2.4V	—	—
6	1.3V	—	—
7	4.9V	—	—
8	0V	—	—
9	4.9V	—	—
10	0V	—	—
11	0V	—	—
12	0V	—	—
13	0V	—	—
14	4.9V	—	—
15	4.9V	—	—
16	4.9V	—	—
17	0V	—	—
18	2.2V	—	—

IC401 (TC4S66F)

Pin	FM	AM	CASSETTE
1	1.3V	—	—
2	1.3V	—	—
3	0V	—	—
4	7.8V	—	—
5	8.5V	—	—

IC402 (TC9216P)

Pin	FM	AM	CASSETTE
1	2.4V	—	—
2	2.4V	—	—
3	0V	—	—
4	4.8V	—	—
5	4.8V	—	—
6	4.7V	—	—
7	0V	—	—
8	0V	—	—
9	0V	—	—
10	2.4V	—	—
11	0V	—	—
12	2.3V	—	—
13	0V	—	—
14	2.8V	—	—
15	1V	—	—
16	4.7V	—	—

IC501 (HA13150)

Pin	FM	AM	CASSETTE
1	0V	—	—
2	14.2V	—	—
3	7.1V	—	—
4	0V	—	—
5	7V	—	—
6	14.2V	—	—
7	7V	—	—
8	0V	—	—
9	7V	—	—
10	4.1V	—	—
11	0V	—	—
12	0V	—	—
13	0V	—	—
14	14.2V	—	—
15	7V	—	—
16	0V	—	—
17	7V	—	—
18	14.2V	—	—
19	7.1V	—	—
20	0V	—	—
21	7V	—	—
22	7V	—	—
23	0V	—	—

IC601 (HA12174)

Pin	FM	AM	CASSETTE
1	0V	—	—
2	4.3V	—	—
3	0V	—	—
4	4.3V	—	—
5	0V	—	—
6	4.3V	—	—
7	4.3V	—	—
8	4.3V	—	—
9	4.3V	—	—
10	1.8V	—	—
11	1.9V	—	—
12	4.3V	—	—
13	0V	—	—
14	0V	—	—
15	0V	—	—
16	4V	4V	0V
17	0V	—	—
18	0V	—	—
19	0V	—	—
20	0V	—	—
21	0V	—	—
22	8.6V	—	—
23	8.6V	—	—
24	8.3V	8.3V	4.6V
25	4.3V	—	—
26	4.8V	4.8V	4.3V
27	0V	—	—
28	4.4V	—	—
29	4.7V	—	—
30	4.3V	—	—
31	4.3V	—	—
32	1.9V	—	—
33	1.9V	—	—
34	4.3V	—	—
35	4.3V	—	—
36	4.3V	—	—
37	4.3V	—	—
38	0V	—	—
39	4.3V	—	—
40	4.3V	—	—
41	4.3V	—	—
42	0V	—	—
43	3.8V	—	—
44	3.8V	—	—
45	4.3V	—	—
46	4.3V	—	—
47	4.3V	—	—
48	4.3V	—	—
49	0V	—	—
50	0V	—	—
51	4.3V	—	—
52	4.3V	—	—
53	4.3V	—	—
54	4.3V	—	—
55	4.3V	—	—
56	3.5V	—	—

IC602 (TC4066BF)

Pin	FM	AM	CASSETTE	CD
1	4.7V	4.7V	4.7V	0V
2	4.7V	4.7V	4.7V	4.7V
3	4.7V	4.7V	4.7V	4.7V
4	4.7V	4.7V	4.7V	0V
5	8.6V	8.6V	8.6V	0V
6	0V	8.6V	0V	0V
7	0V	0V	0V	0V
8	4.7V	4.7V	4.7V	4.7V
9	0V	4.7V	1.4V	1.4V
10	0V	4.7V	1.4V	1.4V
11	4.7V	4.7V	4.7V	4.7V
12	0V	8.6V	0V	0V
13	8.6V	8.6V	8.6V	0V
14	8.6V	8.6V	8.6V	8.6V

IC603 (M5280FP)

Pin	FM	AM	CASSETTE
1	4.3V	—	—
2	4.3V	—	—
3	4.3V	—	—
4	0V	—	—
5	4.3V	—	—
6	4.3V	—	—
7	4.3V	—	—
8	8.6V	—	—

IC604 (M5218AFP)

Pin	FM	AM	CASSETTE
1	4.7V	—	—
2	4.7V	—	—
3	4.7V	—	—
4	0V	—	—
5	4.7V	—	—
6	4.7V	—	—
7	4.7V	—	—
8	8.6V	—	—

IC702 (PCF8576T)

Pin	FM	AM	CASSETTE
1	4.9V	—	—
2	4.9V	—	—
3	4.8V	—	—
4	2.6V	—	—
5	4.8V	—	—
6	0.9V	—	—
7	0V	—	—
8	0V	—	—
9	0V	—	—
10	0V	—	—
11	0V	—	—
12	0V	—	—

IC703 (1S1U60L)

Pin	FM	AM	CASSETTE
1	4.8V	4.8V	4.8V
2	0V	0V	0V
3	4.8V	4.8V	4.8V

IC901 (µPD78044-041-3B9) Europe
(µPD78044-037-3B9) U.S.A.

Pin	FM	AM	CASSETTE	CD
1	0V	—	—	—
2	0V	—	—	—
3	4.8V	0.6V	—	—
4	0V	4.8V	—	—
5	0V	4.8V	—	—
6	4.8V	—	—	—
7	4.8V	—	—	—
8	4.9V	—	—	—
9	4.9V	—	—	—
10	10.5V	—	—	—
11	4.9V	—	—	—
12	1.2V	—	—	—
13	4.8V	—	—	—
14	4.9V	—	—	—
15	4.9V	—	—	—
16	4.9V	—	—	—
17	4.8V	—	—	—
18	3.9V	—	—	—
19	4V	—	—	—
20	0V	—	—	—
21	4.9V	—	—	—
22	4.9V	—	—	—
23	4.9V	—	—	—
24	1.6V	—	—	—
25	4.9V	—	—	—
26	4.2V	—	—	—
27	4.9V	—	—	—
28	0V	—	—	—
29	4.9V	—	—	—
30	4.8V	—	—	—
31	—	—	—	—
32	2.5V	—	—	—
33	0V	—	—	—
34	0V	—	—	—
35	4.9V	—	—	—
36	4.9V	—	—	—
37	4.9V	—	—	—
38	4.9V	—	—	—
39	0V	—	—	—
40	4.9V	—	—	—
41	0V	—	—	—
42	4.9V	—	—	—
43	0V	—	—	—
44	4.9V	—	—	—
45	4.9V	—	—	—
46	4.9V	—	—	—
47	4.8V	—	—	—
48	0V	—	—	—
49	0V	—	—	—
50	4.9V	—	—	—
51	4.9V	—	—	—
52	4.9V	—	—	—
53	4.9V	—	—	—
54	4.9V	—	—	—
55	4.9V	—	—	—
56	5.1V	—	—	—
57	4.8V	—	—	—
58	4.8V	—	—	—
59	4.8V	—	—	—
60	0V	—	—	—
61	0V	—	—	—
62	0V	—	—	—
63	0V	—	—	—
64	0V	—	—	—
65	0V	—	—	—
66	0V	—	—	—
67	0V	—	—	—
68	0V	—	—	—
69	4.8V	—	—	—
70	4.8V	—	—	—
71	0V	—	—	—
72	0V	—	—	—
73	4.9V	—	—	—
74	0V	—	—	—
75	0V	—	—	—
76	4.8V	4.8V	0V	4.8V
77	0V	0V	0V	4.8V
78	0V	—	—	—
79	0V	—	—	—
80	0V	—	—	—

IC902 (NJU3713G)

Pin	FM	AM	CASSETTE
1	4.9V	—	—
2	4.9V	—	—
3	4.9V	—	—
4	4.9V	—	—
5	0V	—	—
6	4.9V	—	—
7	4.9V	—	—
8	4.9V	—	—
9	4.9V	—	—
10	4.8V	—	—
11	4.8V	—	—
12	4.8V	—	—
13	4.9V	—	—
14	4.9V	—	—
15	4.9V	—	—
16	4.9V	—	—
17	4.9V	—	—
18	4.9V	—	—

IC903 (LC3517AML-15)

Pin	FM	AM	CASSETTE
1	4.9V	—	—
2	4.9V	—	—
3	4.9V	—	—
4	4.9V	—	—
5	4.9V	—	—
6	4.9V	—	—
7	4.9V	—	—
8	4.9V	—	—
9	0V	—	—
10	0V	—	—
11	0V	—	—
12	0V	—	—
13	0V	—	—
14	0V	—	—
15	0V	—	—
16	0V	—	—
17	0V	—	—
18	4.8V	—	—
19	4.9V	—	—
20	4.8V	—	—
21	4.8V	—	—
22	4.9V	—	—
23	4.9V	—	—
24	4.9V	—	—

FM/AM TUNER PACK

TN401

Pin	FM	AM
1	0V	2.2V
2	0V	8.5V
3	0V	0V
4	0V	2.2V
5	0V	0V
6	0V	2.4V
7	1.3V	1.5V
8	0V	0V
9	0V	0V
10	5.3V	0V
11	0V	0V
12	2.3V	0V
13	1.3V	1.5V
14	8.4V	0V
15	8.2V	0V
16	0V	0V
17	0V	0V

IC403 (LA1862M)

Pin	FM
1	0.7V
2	8.1V
3	0V
4	0.3V
5	4.7V
6	3V
7	0.7V
8	8.4V
9	0V
10	4.9V
11	4.9V
12	2.9V
13	0.2V
14	0.2V
15	3.1V
16	3.1V
17	4.9V
18	0V
19	3.4V
20	3.4V
21	3.7V
22	3.4V
23	3.4V
24	4.8V
25	5.1V
26	4.9V
27	0V
28	4V
29	4.8V
30	3.8V
31	3.8V
32	1.7V
33	4.8V
34	3.5V
35	2.9V
36	2.9V

IC904 (M51953B)

Pin	FM
1	4.9V
2	0V
3	0V
4	1.2V
5	4.8V

Element	Pin	FM	AM	CASSETTE
TR101	E	—	—	14.1V
2SB956	C	—	—	14.1V
	B	—	—	13.4V
TR102	E	—	—	0V
DTC114EK	C	—	—	0.3V
	B	—	—	4.7V
TR103	E	—	—	0V
2SD1758	C	—	—	14.2V
	B	—	—	10.6V
TR104	E	—	—	0V
DTA114EK	C	—	—	0V
	B	—	—	4.7V
TR105	E	—	—	14.2V
DTC114EK	C	—	—	14.1V
	B	—	—	0V
TR106	E	—	—	2.1V
2SD874	C	—	—	3.2V
	B	—	—	2.8V
TR201	E	0V	—	—
DTC314TK	C	0V	—	—
	B	4.3V	—	—
TR202	E	0V	—	—
DTC314TK	C	0V	—	—
	B	4.3V	—	—
TR203	E	0V	—	—
DTC314TK	C	0V	—	—
	B	4.3V	—	—
TR204	E	0V	—	—
DTC314TK	C	0V	—	—
	B	4.3V	—	—
TR402	E	0V	—	—
2SC2412	C	0V	—	—
	B	0.6V	—	—
TR403	E	0V	—	—
DTC114EK	C	7.9V	—	—
	B	0V	—	—
TR404	E	0.6V	—	—
2SC2412	C	1.3V	—	—
	B	1.1V	—	—
TR405	E	0V	—	—
2SC2412	C	1.3V	—	—
	B	0.6V	—	—

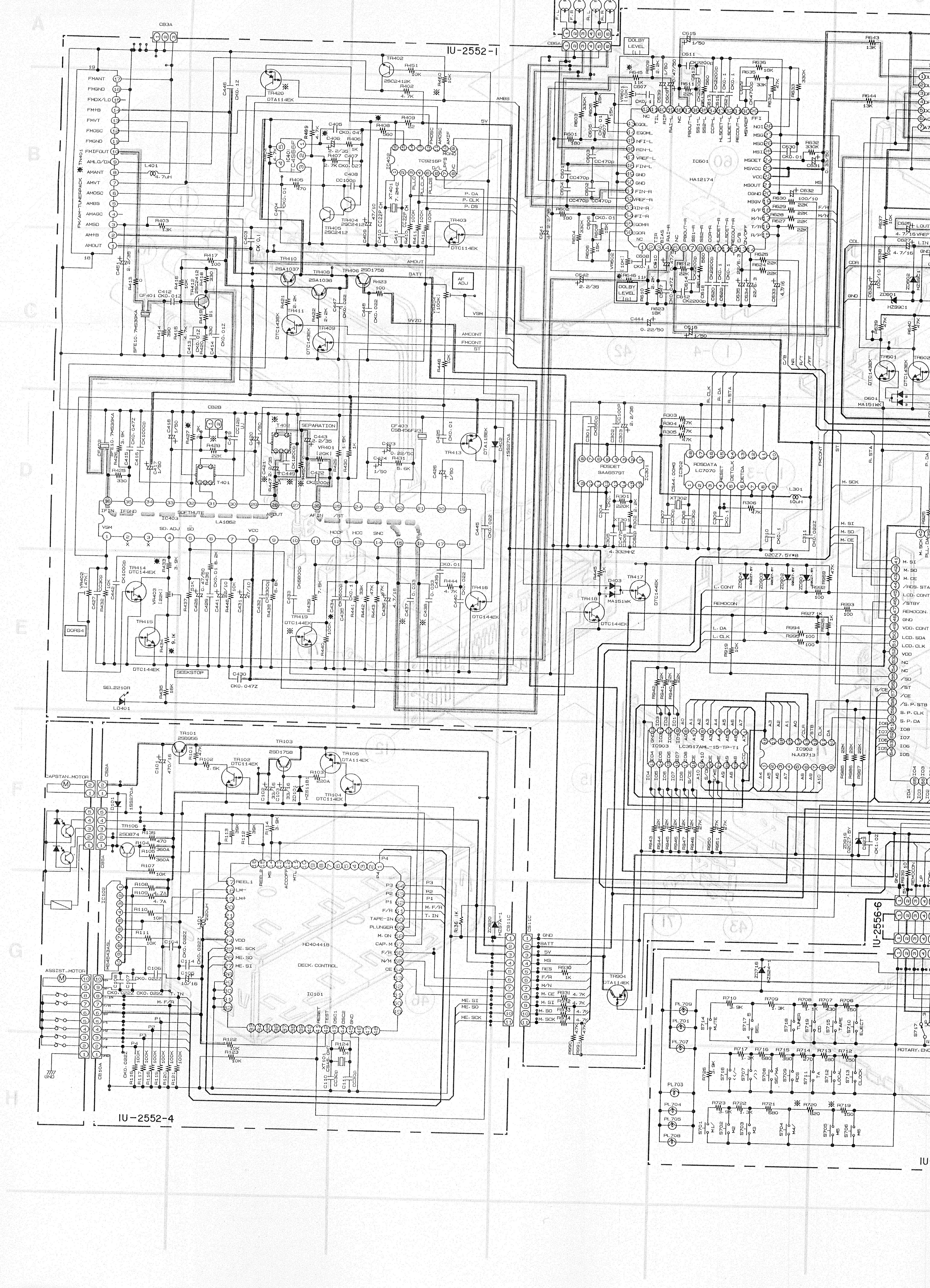
Element	Pin	FM	AM	CASSETTE
TR406	E	8.5V	—	—
2SD1758	C	14.2V	—	—
	B	9.1V	—	—
TR408	E	8.6V	8.6V	—
2SA1036	C	8.5V	0V	—
	B	7.8V	8.1V	—
TR409	E	0V	0V	—
DTC143EK	C	0V	8.1V	—
	B	4.8V	0V	—
TR410	E	8.6V	8.6V	—
2SA1037	C	0V	8.5V	—
	B	8V	8V	—
TR411	E	0V	0V	—
DTC143EK	C	8V	0V	—
	B	0V	4.8V	—
TR412	E	1.9V	—	—
2SC2412	C	6.5V	—	—
	B	2.5V	—	—
TR413	E	8.5V	—	—
DTA115EK	C	0V	—	—
	B	8.3V	—	—
TR414	E	0V	—	—
DTC144EK	C	7.8V	—	—
	B	0V	—	—
TR415	E	0V	—	—
DTC144EK	C	0V	—	—
	B	4.7V	—	—
TR416	E	0V	—	—
DTC144EK	C	0V	—	—
	B	0V	—	—
TR417	E	0V	—	—
DTC144EK	C	4.9V	—	—
	B	0V	—	—
TR418	E	0V	—	—
DTC144EK	C	0V	—	—
	B	4.7V	—	—
TR419	E	0V	—	—
DTC144EK	C	0V	—	—
	B	0V	—	—
(MONO)	B	4.9V	—	—
TR420	E	0V	—	—
DTA144EK	C	0V	—	—
	B	4.8V	—	—

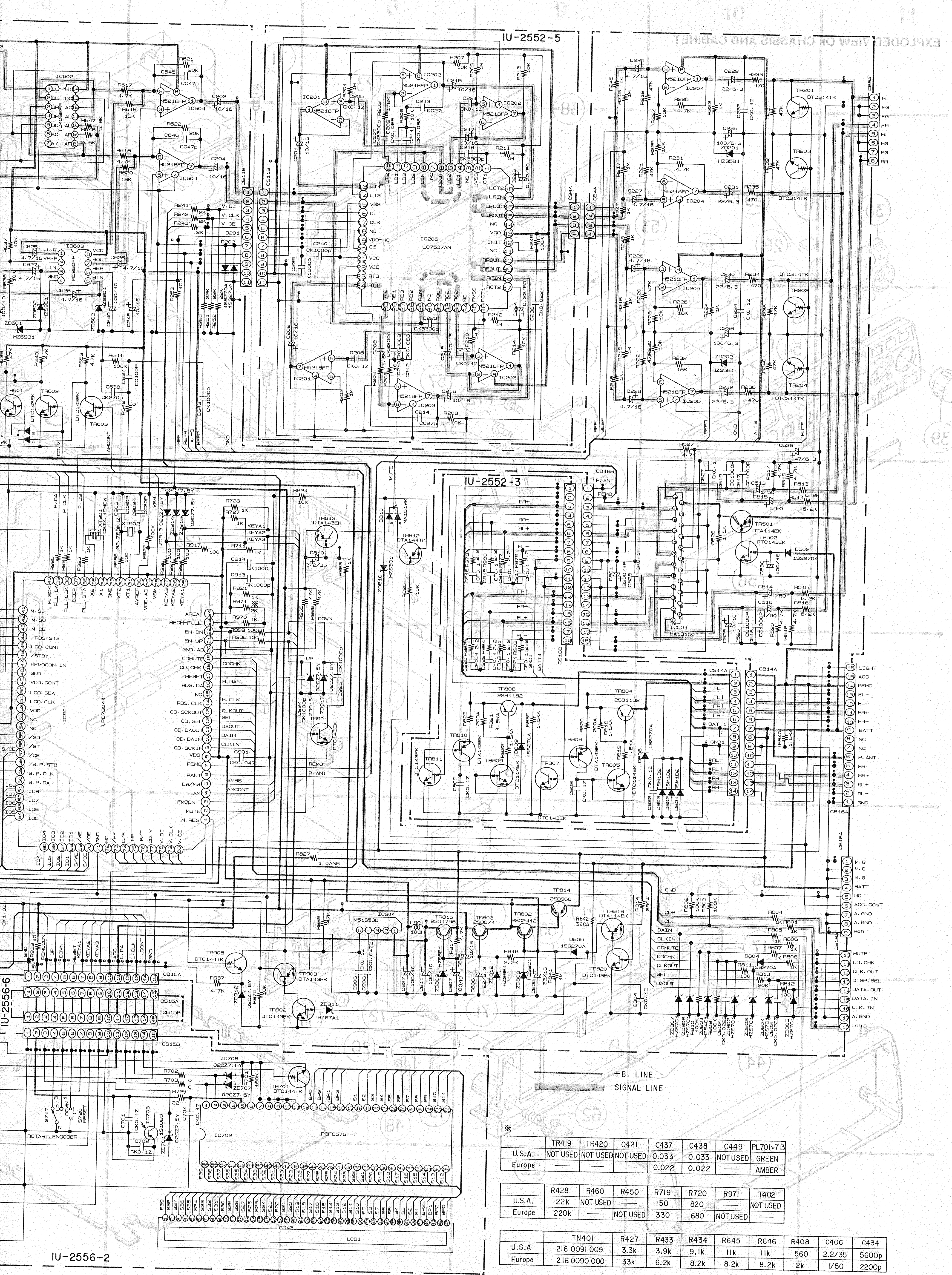
Element	Pin	FM	AM	CASSETTE
TR501	E	14.2V	—	—
DTA144EK	C	14.1V	—	—
	B	0V	—	—
TR502	E	0V	—	—
DTC143EK	C	0V	—	—
	B	13.5V	—	—
TR701	E	0V	—	—
DTC144TK	C	0V	—	—
	B	4.8V	—	—
TR802	E	8.6V	—	—
2SC2412K	C	13.6V	—	—
	B	9.1V	—	—
TR803	E	4.9V	—	—
2SD874	C	8.6V	—	—
	B	5.5V	—	—
TR804	E	14.2V	—	—
2SB1182	C	14.2V	—	—
	B	13.5V	—	—
			—	—
TR805	E	0V	—	—
DTC114EK	C	0V	—	—
	B	13.4V	—	—
TR806	E	13.4V	—	—
DTA143EK	C	13.4V	—	—
	B	0V	—	—
TR807	E	0V	—	—
DTC143EK	C	0V	—	—
	B	4.8V	—	—
TR808	E	14.2V	—	—
2SB1182	C	14.2V	—	—
	B	13.5V	—	—
TR809	E	0V	—	—
DTC114EK	C	0V	—	—
	B	13.4V	—	—
TR810	E	13.4V	—	—
DTA143EK	C	13V	—	—
	B	0V	—	—
TR811	E	0V	—	—
DTC143EK	C	0V	—	—
	B	4.8V	—	—

Element	Pin	FM	AM	CASSETTE
TR812	E	11.8V	—	—
DTA144TK	C	0V	—	—
	B	4.9V	—	—
TR813	E	4.9V	—	—
DTA143EK	C	0V	—	—
	B	4.9V	—	—
TR814	E	14.2V	—	—
2SB968	C	8.5V	—	—
	B	13.6V	—	—
TR815	E	4.9V	—	—
2SD1758	C	14.3V	—	—
	B	5.5V	—	—
				—
TR819	E	9.9V	—	—
DTA114EK	C	9.8V	—	—
	B	0V	—	—
TR820	E	0V	—	—
DTC143EK	C	0V	—	—
	B	4.8V	—	—
TR901	E	4.9V	—	—
DTC143EK	C	4.9V	—	—
	B	0V	—	—
TR902	E	0V	—	—
DTC143EK	C	0V	—	—
	B	3.7V	—	—
TR903	E	4.9V	—	—
DTA143EK	C	4.9V	—	—
	B	0V	—	—
TR904	E	5.2V	—	—
DTA114EK	C	4.8V	—	—
	B	0V	—	—
TR905	E	4.4V	—	—
DTC144TK	C	4.8V	—	—
	B	4.9V	—	—

Element	Pin	FM	AM	CASSETTE	CD
TR601	E	0V	0V	0V	0V
DTC143EK	C	0V	8.6V	0V	0V
	B	1.3V	0V	1.3V	4.2V
TR602	E	0V	0V	0V	0V
DTC143EK	C	8.6V	8.6V	8.6V	0V
	B	0V	0V	0V	4.8V
TR603	E	0V	0V	0V	0V
DTC143EK	C	1.8V	0V	1.8V	4.7V
	B	0V	4.8V	0V	0V

SCHEMATIC DIAGRAM


IU-2552-1
IU-2552-4
IU-2556-6
FM/AM-TUNERPACK
FMANT
FMGND
FMDX/LO
FM+B
FMVT
FMOSC
FMIFOUT
AMLO/DX
AMANT
AMVT
AMOSC
AMBS
AMAGC
AMSD
AM+B
AMOUT
CB3A
CB6A
CB2B
IC402
TC9216P
IC401
TC4S66F
IC403
LA1862
SOFTMUTE
SEPARATION
IFIN
IFGND
VSM
SD. ADJ
SD
VCC
HCCF
HCC
SNC
AFOUT
AFIN
/ST
DORS4
SEEKSTOP
SEL2210R
LD401
TR402
2SC2412K
TR420
DTA114EK
TR403
DTC114EK
TR404
2SC2412
TR405
2SC2412
TR410
2SA1037
TR408
2SA1036
TR406
2SD1758
TR411
DTC143EK
TR409
DTC143EK
TR412
2SC2412
TR413
DTA115EK
TR414
DTC144EK
TR415
DTC144EK
TR416
DTC144EK
TR417
DTC144EK
TR418
DTC144EK
TR419
DTC144EK
D402
1SS270A
D403
MA151WK
AF ADJ
VR252
AMCONT
FMCONT
ST
BATT
9VZO
AMBS
5V
P. DA
P. CLK
P. DS
CF401
SFE10.7MS3GKA
CF402
CF403
CSB456F23
T401
T402
VR401
VR402
VR403
XT401
7.2MHZ
DOLBY LEVEL [L]
DOLBY LEVEL [R]
IC601
HA12174
IC301
RDSDET
SAA6579T
IC302
RDSDATA
LC7070
XT301
4.332MHZ
XT302
CSA4.00MG
L301
10uH
R. CLK
R. DA
R. STA
L. CONT
REMOCON
L. DA
L. CLK
IC903
LC3517AML-15-TP-T1
IC902
NJU3713
TR904
DTA114EK
ZD716
HZS24-1
PL709
PL701
PL707
PL703
PL704
PL705
PL708
S714 MUTE
S717 SEL
S718 TUNER
S719 CD
S720 TAPE
S721 EJECT
S716
S707
S708 SE/MA
S709 RDS
S711 TA
S712 LOCAL
S713 CLOCK
S701 M1/
S702 M2
S703 M3
S704 M4/
S705 M5
S706 M6
ROTARY. ENC
TR501
DTC143EK
TR602
D601
MA151WK
ZD601
HZS9C1
ZD602
M. SI
M. SO
M. CE
/RDS. STA
LCD. CONT
/STBY
REMOCON.
GND
VDD. CONT
LCD. SDA
LCD. CLK
VDD
NC
/SO
/ST
/CE
/S. P. STB
S. P. CLK
S. P. DA
S/CE
M. SCK
CAPSTAN_MOTOR
ASSIST_MOTOR
CB2A
CB5A
CB10A
CB11C
CB11C
TR101
2SB956
TR102
DTC114EK
TR103
2SD1758
TR104
DTC114EK
TR105
DTA114EK
TR106
2SD874
ZD101
HZ8.1B1
D101
1SS270A
ZD120
HZS7A-1
IC102
M54543ASL
IC101
HD404418
DECK. CONTROL
XT101
CSA4.00MG
REEL1
LM-
LM+
REEL2
ACCOFF
MTL
P4
P3
P2
P1
F/R
M. F/R
TAPE-IN
T. IN
PLUNGER
M. ON
CAP. M
N/M
CE
VDD
ME. SCK
ME. SO
ME. SI
RESET
TEST
OSC1
OSC2
RES
M/N
M. CE
M. SO
M. SCK
GND
BATT
5V
MS
F/R


IU-2552-5
IU-2552-3
IU-2556-6
IU-2556-2
IC602
IC603
IC604
IC201
IC202
IC203
IC204
IC205
IC206
LC7537AN
IC501
HA13150
IC601
UPD78044
IC702
PCF8576T-T
IC904
LCD1
ROTARY ENCODER
+B LINE
SIGNAL LINE

※

	TR419	TR420	C421	C437	C438	C449	PL701~713
U.S.A.	NOT USED	NOT USED	NOT USED	0.033	0.033	NOT USED	GREEN
Europe	——	——	——	0.022	0.022	——	AMBER

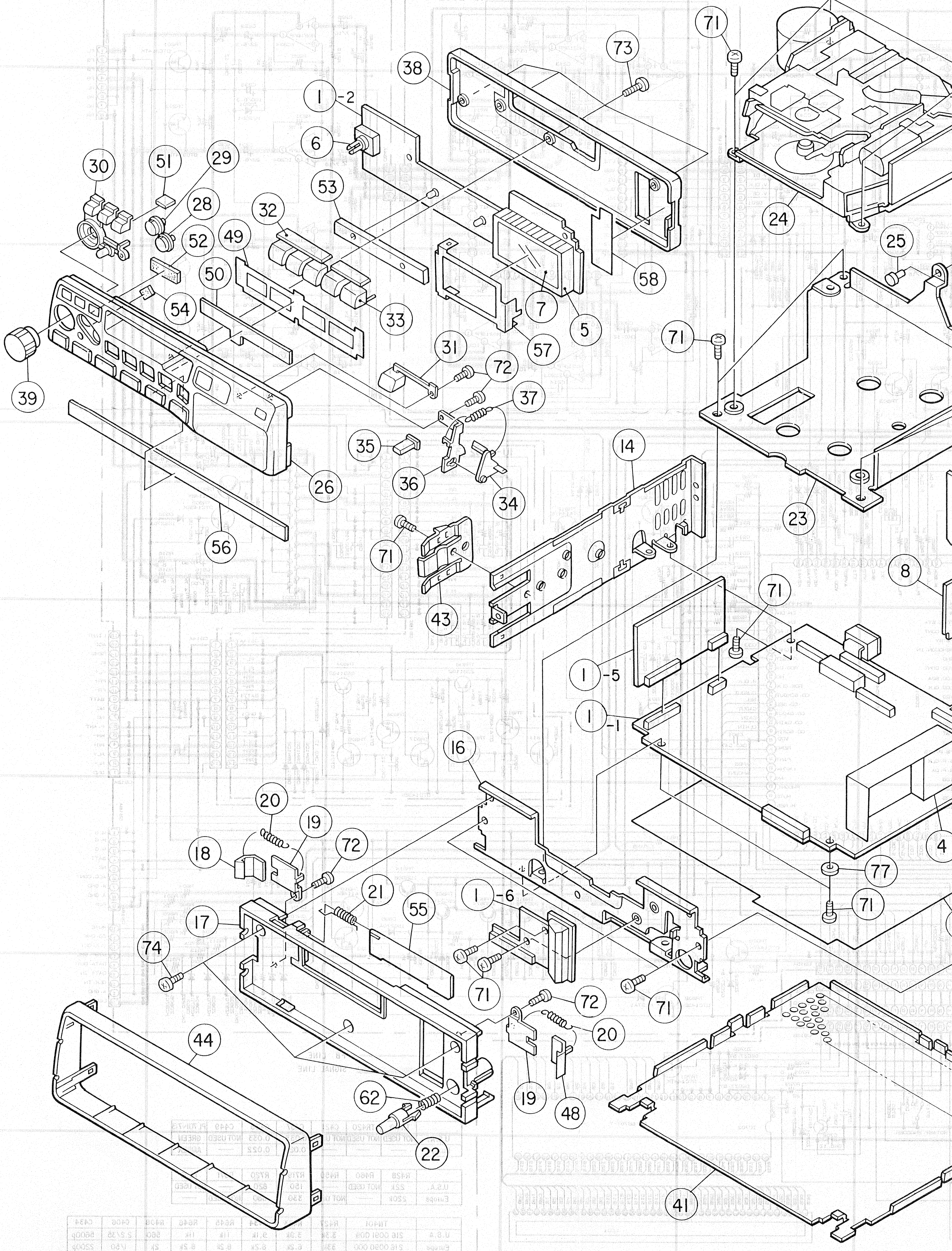
	R428	R460	R450	R719	R720	R971	T402
U.S.A.	22k	NOT USED	——	150	820	——	NOT USED
Europe	220k	——	NOT USED	330	680	NOT USED	——

	TN401	R427	R433	R434	R645	R646	R408	C406	C434
U.S.A	216 0091 009	3.3k	3.9k	9.1k	11k	11k	560	2.2/35	5600p
Europe	216 0090 000	33k	6.2k	8.2k	8.2k	8.2k	2k	1/50	2200p

NOTES

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

EXPLODED VIEW OF CHASSIS AND CABINET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1-1
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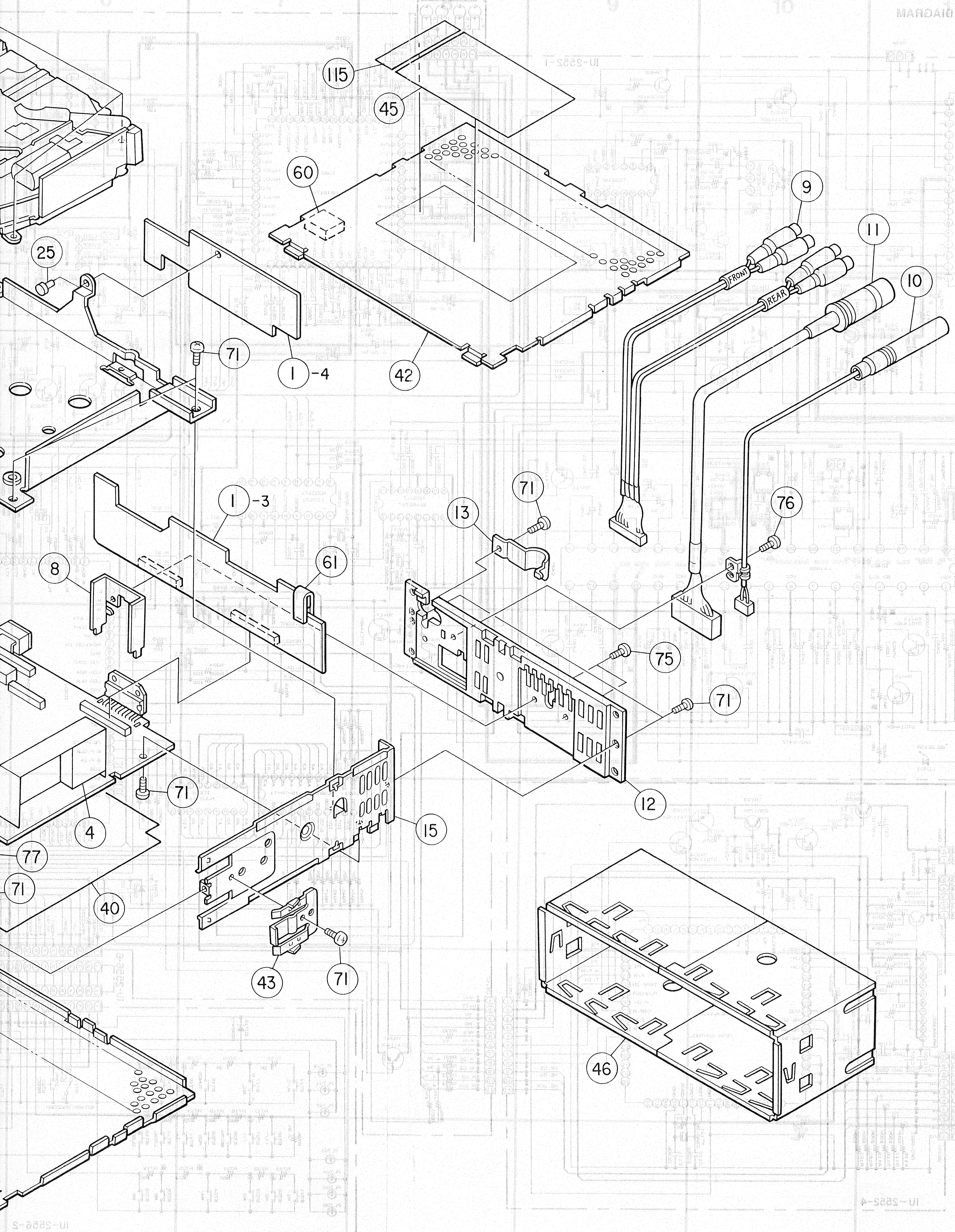

FRONT
REAR
1 -4
1 -3

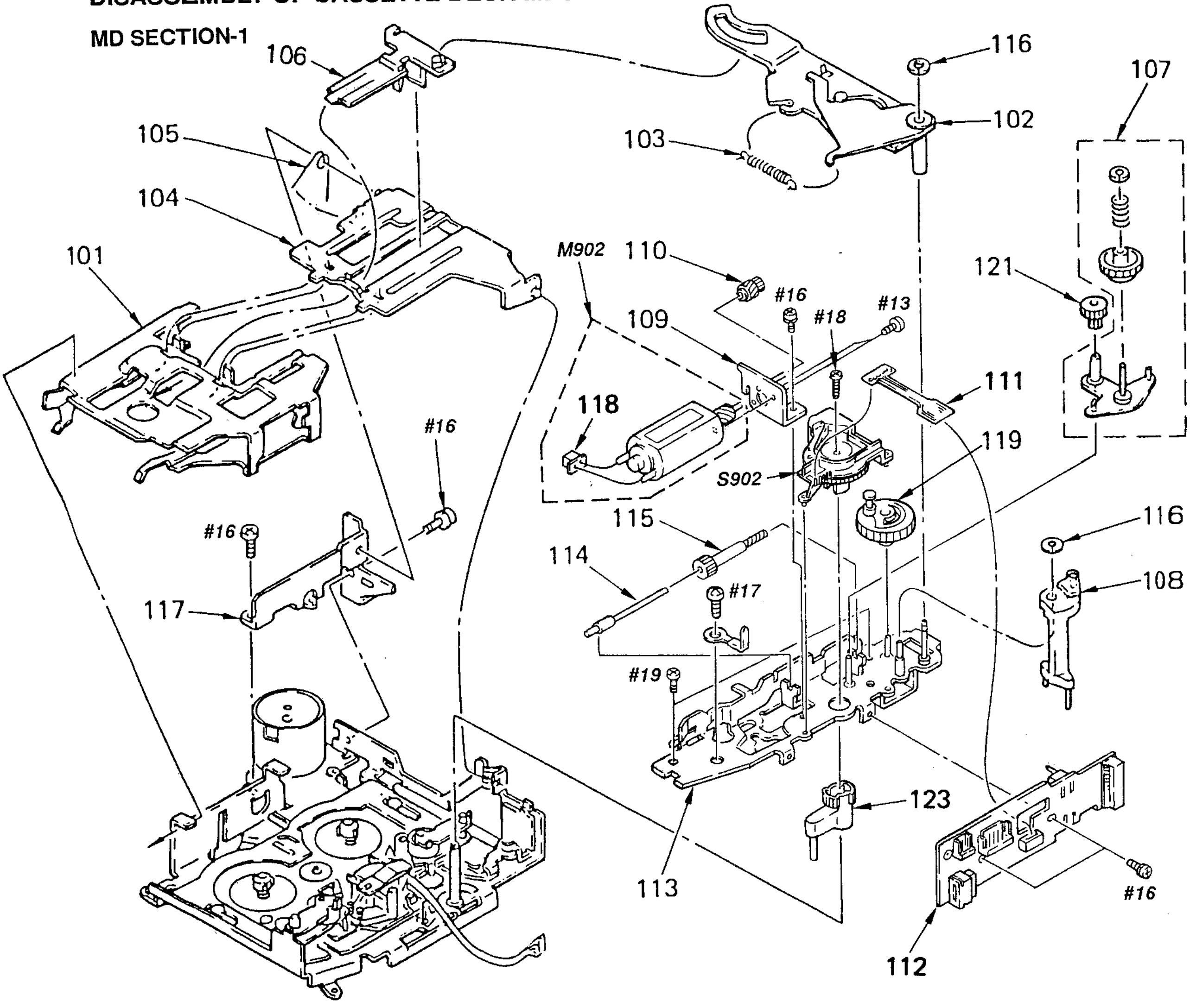
PARTS LIST OF EXPLODED VIEW

Ref. No.	Add.	Part No.	Part Name	Remarks	Q'ty
◉ 1		1U-2552	Main Unit Ass'y	U.S.A.model	1^S
◉ 1		1U-2552 D	Main Unit Ass'y	Europe model	1^S
1-1	5-E	—	Main Unit		(1)
1-2	3-B	—	Front Panel Unit		(1)
1-3	7-D	—	14 – 18P Conn. Unit		(1)
1-4	7-C	—	Mecha. Conn. Unit		(1)
1-5	4-E	—	VR Unit		(1)
1-6	4-F	—	15P Conn. Unit		(1)
★ 2		254 6177 709	Chemicon 3300µF/16 V	C801	1
★ 3		393 0105 014	Lamp Ass'y	U.S.A.model	2
★ 3		393 0105 027	Lamp Ass'y	Europe model	2
4	6-E	216 0091 009	FM/AM Tuner Pack	U.S.A.model	1
4	6-E	216 0090 000	FM/AM Tuner Pack	Europe model	1
◉ 5	4-C	393 6003 107	LCD(SLU1875) Ass'y		1
6	3-B	212 0347 007	Rotary Encoder		1
7	4-C	143 0846 202	LCD Lens		1
◉ 8	6-D	412 3680 002	IC Holder		1
9	10-B	203 6410 002	4 P Jack Cord Ass'y		1
10	11-C	203 4938 007	Ant. Cord Ass'y		1
11	10-C	204 6418 007	13-18 P DIN Cord Ass'y		1
12	9-E	417 0481 102	Radiator		1
◉ 13	8-D	412 3684 008	Conn. Bracket		1
14	4-D	411 1238 000	Side Chassis(R)		1
15	7-F	411 1239 009	Side Chassis(L)		1
16	4-F	411 1237 001	Front Chassis		1
17	2-F	146 1458 300	Front Plate Ass'y		1
18	2-F	431 0348 102	Panel Holder		1
◉ 19	2-F	412 3682 204	Lock Bracket		2
20	2-F	463 0747 001	Spring A		2
21	3-F	463 0765 009	Spring		1
22	3-G	146 1084 114	Door Push Knob		1
◉ 23	5-C	412 3681 108	Deck Bracket		1
◉ 24	5-B	338 0167 000	MG-55L2-31 Mecha.Ass'y		1
25	6-C	477 0210 003	Push Rivet		2
◉ 26	2-C	146 1457 301	Front Panel Ass'y	U.S.A.model	1
◉ 26	2-C	146 1457 327	Front Panel Ass'y	Europe model	1
27		113 1603 304	Preset Button	U.S.A. model	1
27		113 1627 005	Preset Button	Europe model	1
28	2-B	113 1604 002	Up Button		1
29	2-B	113 1605 001	Down Button		1
30	1-B	113 1608 202	Function Button		1
31	3-C	113 1607 106	EJ Button		1
32	2-C	113 1609 007	Mode Button	U.S.A.model	1
32	2-C	113 1609 023	Mode Button	Europe model	1
33	3-C	113 1610 009	CLK Button		1
34	3-D	431 0349 305	Release Lever		1
35	3-D	113 1606 000	Release Button		1
◉ 36	3-D	412 3683 009	Release Bracket		1
37	3-C	463 0748 000	Spring B		1
◉ 38	3-B	146 1471 002	Front Cover Ass'y		1
39	1-C	112 0730 000	Volume Knob		1
40	6-F	415 0701 006	Insulating Sheet		1
◉ 41	6-G	412 3288 116	Cover		1
◉ 42	8-C	412 3288 103	Cover		1
43	3-D	461 0704 006	Snap Plate		2
44	2-G	146 1455 109	Frame		1
45	8-A	513 2112 007	Rating Sheet		1
◉ 46	9-G	412 2870 004	Sleeve Ass'y		1
★ 47		415 0453 008	RCA Cap		4
48	4-G	431 0355 108	Panel Holder (R)		1

Ref. No.	Add.	Part No.	Part Name	Remarks	Q'ty
49	2-C	116 0024 006	Blind Sheet (C)		1
50	2-C	143 0861 009	Knob Filter		1
51	2-B	415 0712 008	Illumi Sheet		1
52	2-C	415 0714 006	Reflection Sheet		1
53	3-B	143 0858 106	Knob Lens		1
54	1-C	461 0541 007	Cushion		1
55	3-F	143 0851 006	Cassette Lid		1
56	2-D	403 0055 005	Support Plate		1
57	3-C	414 0702 002	LCD Frame		1
58	4-C	415 0709 008	Insulating Sheet		1
★ 59		393 0102 020	Lamp Ass'y	U.S.A. model	5
★ 59		393 0102 017	Lamp Ass'y	Europe model	5
60	7-B	461 0330 069	Rubber Cushion		1
61	7-D	461 0822 001	Cushion		1
62	3-G	463 0631 007	Spring		1
SCREWS					
71	5-A	473 7001 006	Tapping Screw(S)2.6x5		22
72	3-C	473 7506 006	Tapping Screw(S)2x5		5
73	4-B	473 7507 005	Tapping Screw(S)2x8	Black	4
74	2-G	473 7016 020	Tapping Screw(S)2.6x5	Black	3
75	9-E	471 3204 018	Bind Screw 2x8		2
76	10-D	473 7505 010	Tapping Screw (P) 2.6x6		1
77	5-F	475 1003 006	Washer ϕ3		1
78					
PACKING & ACCESSORIES					
101		GEN 2410	Envelope Sub Ass'y	U.S.A. model	1^S
101		GEN 2491	Envelope Sub Ass'y	Europe model	1^S
101-1		505 0061 007	Envelope		1
101-2		511 2489 103	Inst. Manual	U.S.A. model	1
101-2-1		511 2514 007	Inst. Manual	Europe model	1
101-2-2		511 2530 007	Inst. Manual	Europe model	1
101-3		515 0333 305	DAI Warranty Car	U.S.A. model only	1
101-4		515 0337 204	Custom Card	U.S.A. model only	1
101-5		505 0240 006	Envelope Ass'y		1
101-5-1		505 0099 082	Poly Cover		1
101-5-2		475 6010 007	Nut M5		2
101-5-3		475 1006 003	Washer 5		2
101-5-4		477 0271 006	Special Bolt		1
101-5-5		477 0291 006	Hex.Hole T. Screw 5x20		1
101-6		443 1186 007	Hook Bar		2
102		204 6419 103	16 P Wire Ass'y		1
103		505 0099 024	Poly Cover	for Set	1
104		503 108	1 006	Cushion Ass'y	1
105		412 2036 000	Metal Mount Strap		1
106		505 0061 007	Envelope	for Carry Case	1
107		522 0007 008	Carry Case		1
108		501 1699 007	Ind.Carton	U.S.A. model	1
108		501 1699 023	Ind.Carton	Europe model	1
109		501 1388 062	Master Carton	U.S.A. model	1/4
109		501 1388 088	Master Carton	Europe model	1/4
110		—	—		
111		—	—		
112		515 0480 009	DENON Card	Europe model only	1
113		505 0027 009	Poly Cover	Europe model only	1
114		513 1542 005	Serial No. Sheet	Europe model only	1
115		513 1908 050	License Label	Europe model only	1
115		513 2174 003	Patent Label	U.S.A. model only	1
116		513 2159 002	Green Point Label	Europe model only	1
117					

DISASSEMBLY OF CASSETTE DECK MECHANISM

MD SECTION-1



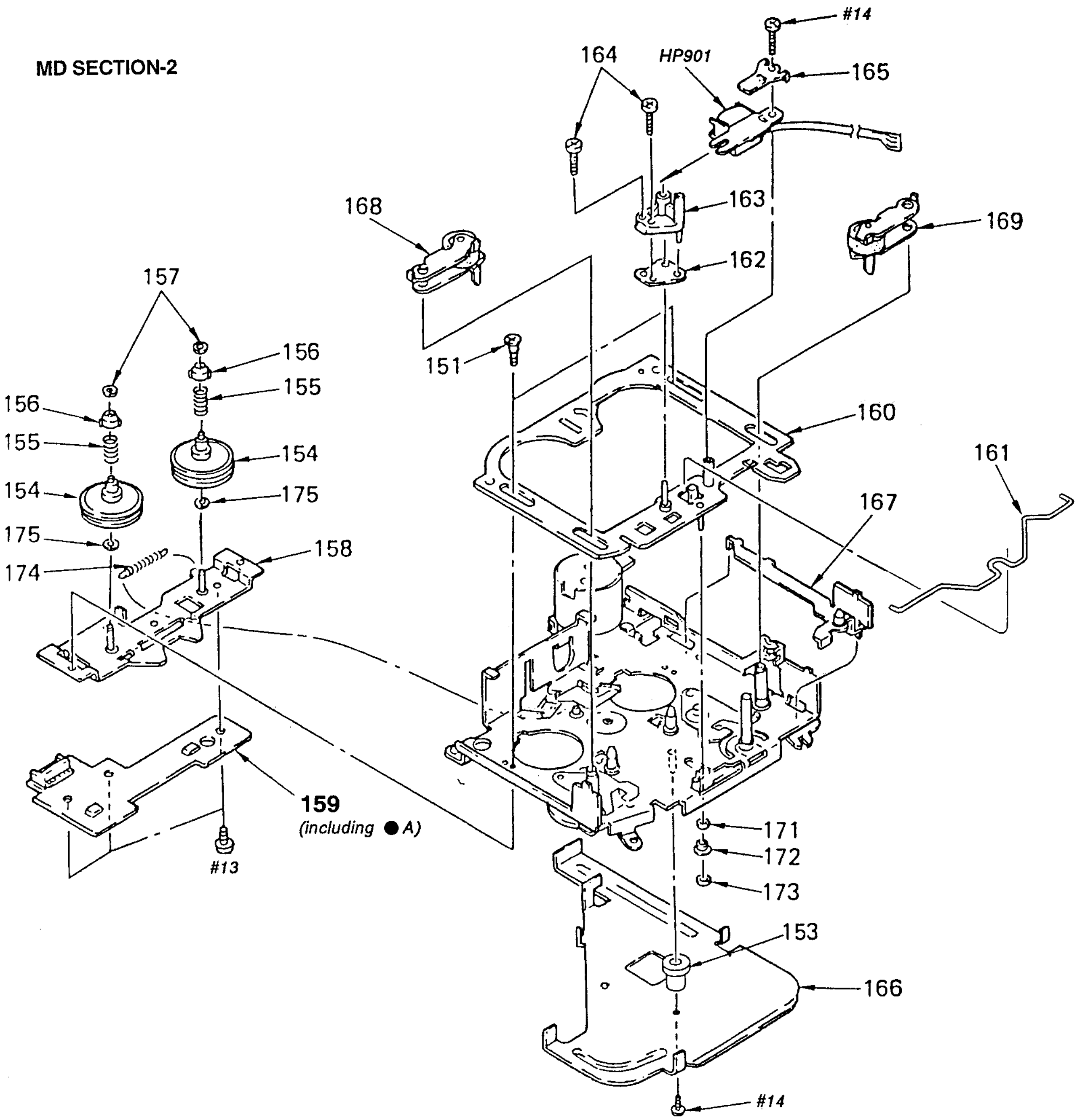
Ref. No.	Add.	Part No.	Part Name	Remarks
12		S76 2410 404	Stop Ring 2.0 Type-E	
13	3-B	S76 2755 407	Screw, precision +P 2x2.2	
14		S76 2785 018	Screw, precision +P 1.4x2.5	
15		S76 2785 067	Screw, precision +P 1.4x4	
16	1-C	S76 2825 305	Screw +PS 2x4	

Ref. No.	Add.	Part No.	Part Name	Remarks
17	3-C	S76 2125 925	Screw +P 2.6x4	
18	3-B	S76 2125 565	Screw +P 2.6x10	
19	3-C	S37 0350 221	Screw +PWH 1.4x2.5	
20		S76 2410 204	E Ring 1.5	
		S15 7095 311	Push Switch (2-1-1)	

Ref. No.	Add.	Part No.	Part Name	Remarks
101	1-B	S33 4410 321	Housing Cassette	
102	3-B	SX3 3441 211	Arm Ass'y Suction	
103	3-B	S33 4421 601	Spring(Suction Arm) Tension	
104	1-B	SX3 3622 621	Hanger(F) Ass'y Housing	
105	1-B	S33 4411 303	Spring	
106	1-A	S33 4411 801	Catcher	
107	4-B	SA3 2399 54A	Gear Ass'y Drive Arm	
107-1		SX3 3441 094	Drive Arm Ass'y	
107-2		S33 4416 502	Friction Gear	
107-3		S33 4413 701	Coil Spring	
107-4		S33 6205 800	Slit Washer	
108	4-C	S33 4426 002	Arm Reverse	
109	3-B	S33 3441 422	Bracket Ass'y Motor	
110	3-B	S33 4428 101	Gear (A) Driving	
111	3-B	S16 3856 311	Switch Flexible Board	

Ref. No.	Add.	Part No.	Part Name	Remarks
112	3-D	S16 3856 211	Switch Board	
113	3-D	SX3 3622 603	Chassis (F) Ass'y MCU	
114	2-C	S33 4415 703	Shaft Driving Gear (B)	
115	2-C	S33 4415 601	Gear (B) Driving	
116	3-A	S33 4422 201	Washer	
117	1-C	S33 6823 913	Bracket Hanger	
118	2-B	S15 6347 011	Housing Connector 2 P	
119	3-C	SX3 3441 191	Gear Ass'y Loading Cam	
120		—	—	
121	4-B	S33 4410 801	Gear (A) Friction	
122		—	—	
123	3-D	SX3 3441 171	Arm Ass'y Mode	
M902	3-C	SA3 2399 56B	Motor Sub Ass'y L	
S902	3-C	S15 7239 711	Switch Rotary Slide	

MD SECTION-2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164
HP901
165
163
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(including ●A)
#13
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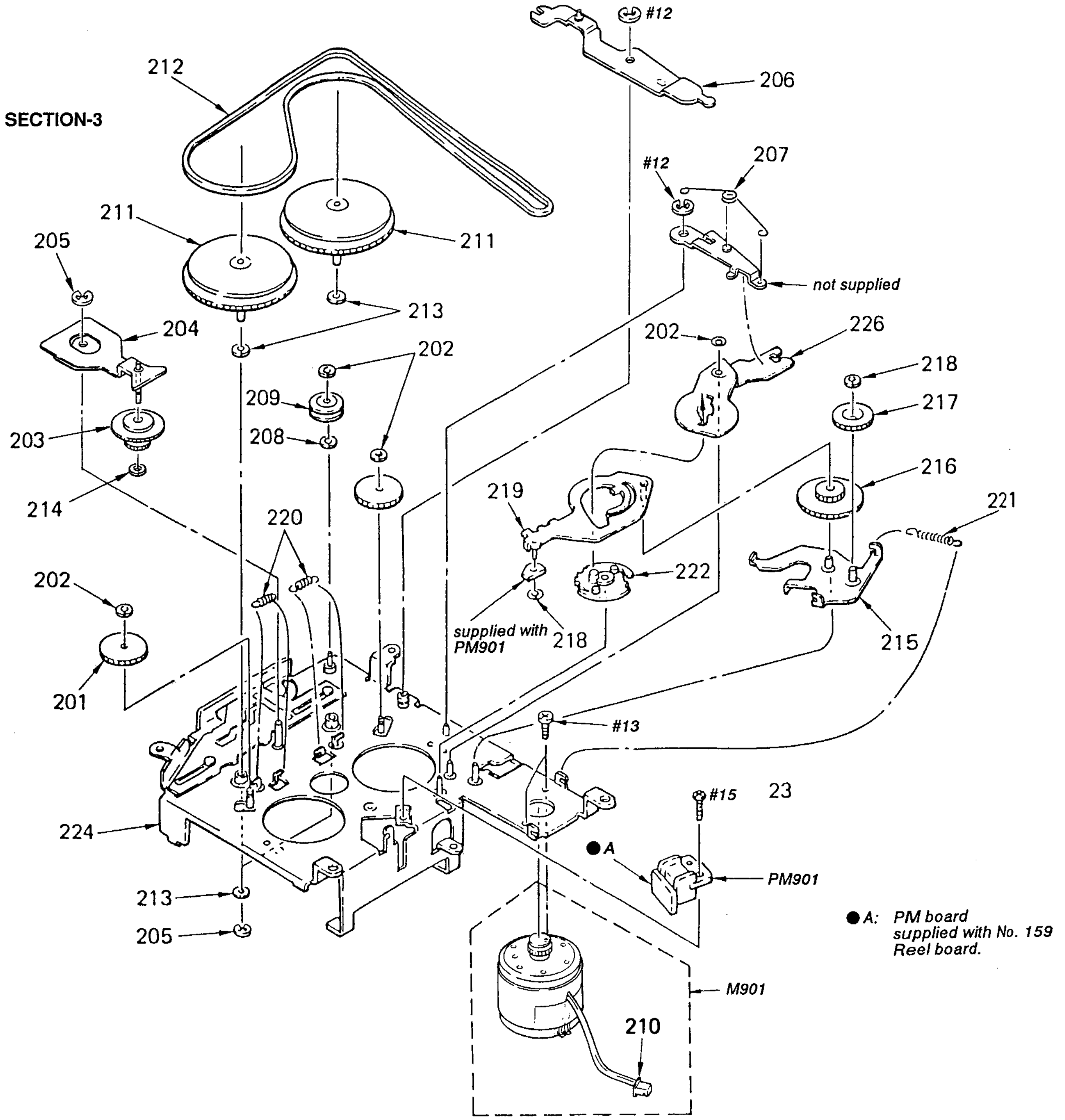
#14

MD SECTION-3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not supplied
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220
219
221
222
202
supplied with PM901
218
215
201
#13
#15
23
224
●A
PM901
213
205
●A: PM board supplied with No. 159 Reel board.
M901
210

Ref. No.	Add.	Part No.	Part Name	Remarks
151	3-B	S33 4411 001	Screw (HB) Step	
152		—	—	
153	3-D	S33 4425 101	Retainer Mode Lever	
154	1-C	SX3 3622 135	Table(L) Ass'y Reel	
155	1-C	S33 4414 301	Spring (BT) Compression	
156	1-C	S33 6572 501	Cap (F) Reel	
157	1-B	S33 6415 101	Washer	
158	2-C	SX3 3633 421	Bracket Ass'y Reel Table	
159	2-D	S16 2441 211	Reel Board	
160	3-C	SX3 3622 611	Base Ass'y(R) Head	
161	4-C	S33 6390 901	Spring(Rattle) Pinch Press	
162	3-B	S33 4412 801	Seam DAH	
163	3-B	S33 4412 702	Arm DAH	

Ref. No.	Add.	Part No.	Part Name	Remarks
164	3-B	S33 6412 201	Screw (M 1.4x5.5) Adj.	
165	3-A	S33 4413 001	Retainer Head	
166	3-D	S33 4422 001	Cover MD	
167	3-C	SX3 3441 181	Lever Ass'y RVS Conversion	
168	2-B	SX3 3441 161	Arm(F) Ass'y Pinch	
169	4-B	SX3 3441 151	Arm(R) Ass'y Pinch	
170		—	—	
171	3-D	S33 4411 701	Roller(B) H/B	
172	3-D	S33 4411 601	Roller(A) H/B	
173	3-D	S33 4422 201	Washer	
174	1-C	S33 4421 701	Spring(Cam Lock Lever) Tension	
175	1-C	S37 0143 701	Poly-Washer φ1.2	
HP901	3-B	S15 4372 611	Head Magnetic(Playback)	

Ref. No.	Add.	Part No.	Part Name	Remarks
201	5-C	S33 4410 401	Gear Play	
202	5-C	S33 4422 201	Washer	
203	5-B	SX3 3441 021	Gear Ass'y FR	
204	5-B	SX3 3441 016	Arm Ass'y FR	
205	6-D	S33 6415 101	Ring(A) E	
206	7-A	SX3 3441 393	Arm Ass'y Power	
207	7-B	S33 4427 901	Spring Buffer	
208	6-C	S37 0143 601	Washer 1.6	
209	6-B	S33 4426 301	Pully(Ass'y) Midway	
210	7-E	S15 6347 011	Housing Connector 2 P	
211	6-B	S33 4426 111	Flywheel(M)	
212	6-A	S33 4411 501	Belt	
213	6-D	S37 0143 701	Poly-Slider	
214	5-C	S33 4422 401	Washer	
215	8-C	SX3 3441 061	Lever Ass'y RVS Gear(B)	

Ref. No.	Add.	Part No.	Part Name	Remarks
216	8-C	S33 3414 601	Gear(B) RVS	
217	8-B	S33 4414 701	Gear(A) RVS	
218	7-C	S33 4422 301	Washer	
219	7-C	SX3 3441 071	Lever Ass'y Cam Lock	
220	6-C	S33 4421 802	Spring(Play Arm) Tension	
221	8-C	S33 3421 501	Spring Tension	
222	7-C	S33 4411 901	Gear RVS Cam	
223		—	—	
224	6-D	SX3 3622 156	Chassis(L2) Ass'y Mechanical	
225		—	—	
226	7-B	SX3 3441 141	Lever Ass'y RVS	
M901	7-D	SX3 3441 361	Motor Sub Ass'y Capstan	
PM901	7-D	1-454-461-11	Solenoid Plunger	

NOTE FOR PARTS LIST

- Part indicated with the mark " ◉ " are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: RN 14K 2E 182 G FR
RN: Type; 14K: Shape and performance; 2E: Power; 182: Resistance; G: Allowable error; FR: Others

RD : Carbon	2B : 1/8W	F : ±1%	P : Pulse-resistant type
RC : Composition	2E : 1/4W	G : ±2%	NL : Low noise type
RS : Metal oxide film	2H : 1/2W	J : ±5%	NB : Non-burning type
RW : Winding	3A : 1W	K : ±10%	FR : Fuse-resistor
RN : Metal film	3D : 2W	M : ±20%	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

*** Resistance**

1 8 2 ⇒ 1800 ohm = 1.8 kohm
2: Indicates number of zeros after effective number.
1 8: 2-digit effective number.
• Units: ohm

1 R 2 ⇒ 1.2 ohm
2: 1-digit effective number.
1 R: 2-digit effective number, decimal point indicated by R.
• Units: ohm

*** Capacity (electrolyte only)**

2 2 2 ⇒ 2200μF
2: Indicates number of zeros after effective number.
2 2: 2-digit effective number.
• Units: μF.

2 R 2 ⇒ 2.2μF
2: 1-digit effective number.
2 R: 2-digit effective number, decimal point indicated by R.
• Units: μF.

● Capacitors

Ex.: CE 04W 1H 2R2 M BP
CE: Type; 04W: Shape and performance; 1H: Dielectric strength; 2R2: Capacity; M: Allowable error; BP: Others

CE : Aluminum foil electrolytic	0J : 6.3V	F : ±1%	HS : High stability type
CA : Aluminum solid electrolytic	1A : 10V	G : ±2%	BP : Non-polar type
CS : Tantalum electrolytic	1C : 16V	J : ±5%	HR : Ripple-resistant type
CQ : Film	1E : 25V	K : ±10%	DL : For charge and discharge
CK : Ceramic	1V : 35V	M : ±20%	HF : For assuring high frequency
CC : Ceramic	1H : 50V	Z : +80% −20%	U : UL part
CP : Oil	2A : 100V		C : CSA part
CM : Mica	2B : 125V	P : +100% −0%	W : UL-CSA type
CF : Metallized	2C : 160V		F : Lead wire forming
CH : Metallized	2D : 200V	C : ±0.25pF	
	2E : 250V	D : ±0.5pF	
	2H : 500V	* : Others	
	2J : 630V		

*** Capacity (except electrolyte)**

2 2 2 ⇒ 2200μμF = 0.0022μF
2 (More than 2): Indicates number of zeros after effective number.
2 2: 2-digit effective number.
• Units: μF.

2 2 1 ⇒ 220PF
1 (0 or 1): Indicates number of zeros after effective number.
2 2: 2-digit effective number.
• Units: PF.
• When the dielectric strength is indicated in AC, "AC" is included after the dieelectric strength value.

P.W.BOARD PARTS LIST
1U-2552 (U.S.A.) 1U-2552D (Europe) MAIN UNIT ASS'Y

Ref.No.	Part No.	Part Name	Remarks
SEMICONDUCTORS			
IC101	262 1826 001	IC HD404418	Mecha. Control
IC102	263 0881 008	IC M54543ASL	Motor Drive
IC201~205	263 0889 903	IC M5218AFP	OP Amp
IC206	263 0884 005	IC LC7537AN	Volume
IC301	262 1701 906	IC SAA6579T	RDS
IC302	263 0614 903	IC LC7070NM	RDS
IC401	263 0616 901	IC TC4S66F	2 Mode Loop
IC402	263 0796 009	IC TC9216P	
IC403	263 0829 905	IC LA1862M	IF-NC-MPX
IC501	263 0883 006	IC HA13150	
IC601	263 0882 007	IC HA12174	Dolby
IC602	262 0714 907	IC TC4066BF	Audio Changeable
IC603	263 0660 902	IC M5280FP	
IC604	263 0889 903	IC M5218AFP	OP Amp
IC702	262 1605 905	IC PCF8576T	LCD
IC703	499 0198 002	IC IS1U60L	Remocon Receiver
IC901	262 1825 109	ICμPD78044-037-3B9	Main Control (U.S.A. model)
IC901	262 1855 001	ICμPD78044-041-3B9	Main Control (Europe model)
IC902	262 1816 901	IC NJU3713G	
IC903	262 1703 904	IC LC3517AML-15	SRAM
IC904	263 0423 000	IC M51953B	Reset
TR101	272 0080 900	Transistor 2SB956(R)	
TR102	269 0082 902	Transistor DTC114EK	Built-in Resistor
TR103	274 0165 902	Transistor 2SD1758(R)	
TR104	269 0083 901	Transistor DTA114EK	Built-in Resistor
TR105	269 0082 902	Transistor DTC114EK	Built-in Resistor
TR106	274 0114 908	Transistor 2SD874(R)	
TR201~204	269 0103 904	Transistor DTC314TK	Built-in Resistor
TR402	273 0384 900	Transistor 2SC2412K(S)	
TR403	269 0082 902	Transistor DTC114EK	Built-in Resistor
TR404,405	273 0384 900	Transistor 2SC2412K(S)	
TR406	274 0165 902	Transistor 2SD1758(R)	
TR408	271 0260 905	Transistor 2SA1036K(S/R)	
TR409	269 0048 904	Transistor DTC143EK	Built-in Resistor
TR410	271 0238 908	Transistor 2SA1037K(S/R)	
TR411	269 0048 904	Transistor DTC143EK	Built-in Resistor
TR412	273 0384 900	Transistor 2SC2412K(S)	
TR413	269 0115 905	Transistor DTA115EK	Built-in Resistor
TR414~418	269 0054 901	Transistor DTC144EK	Built-in Resistor
TR419	269 0054 901	Transistor DTC144EK	Built-in Resistor (Europe model only)
TR420	269 0048 904	Transistor DTA114EK	Built-in Resistor (Europe model only)
TR501	269 0083 901	Transistor DTA114EK	Built-in Resistor
TR502	269 0048 904	Transistor DTC143EK	Built-in Resistor
TR601~603	269 0048 904	Transistor DTC143EK	Built-in Resistor
TR701	269 0085 909	Transistor DTC144TK	Built-in Resistor
TR802	273 0384 900	Transistor 2SC2412K(S)	
TR803	274 0114 908	Transistor 2SD874R	
TR804	272 0127 902	Transistor 2SB1182(R)	
TR805	269 0082 902	Transistor DTC114EK	Built-in Resistor
TR806	269 0047 905	Transistor DTA143EK	Built-in Resistor
TR807	269 0048 904	Transistor DTC143EK	Built-in Resistor
TR808	272 0127 902	Transistor 2SB1182(R)	
TR809	269 0082 902	Transistor DTC114EK	Built-in Resistor
TR810	269 0047 905	Transistor DTA143EK	Built-in Resistor
TR811	269 0048 904	Transistor DTC143EK	Built-in Resistor
TR812	269 0106 901	Transistor DTA144TK	Built-in Resistor
TR813	269 0047 905	Transistor DTA143EK	Built-in Resistor
TR814	272 0082 005	Transistor 2SB968(R)	
TR815	274 0165 902	Transistor 2SD1758(R)	
TR819	269 0083 901	Transistor DTA114EK	Built-in Resistor
TR820	269 0048 904	Transistor DTC143EK	Built-in Resistor
TR901,902	269 0048 904	Transistor DTC143EK	Built-in Resistor
TR903	269 0047 905	Transistor DTA143EK	Built-in Resistor
TR904	269 0083 901	Transistor DTA114EK	Built-in Resistor
TR905	269 0085 909	Transistor DTC144TK	Built-in Resistor
D101	276 0432 903	Diode 1SS270A	
D201,202	276 0432 903	Diode 1SS270A	
D402	276 0432 903	Diode 1SS270A	
D403	276 0438 949	Diode MA151WK	
D502	276 0432 903	Diode 1SS270A	
D601	276 0438 949	Diode MA151WK	
D801~803	276 0548 910	Diode DSM1D2(Type-3)	
D804,805	276 0432 903	Diode 1SS270A	
D808,809	276 0432 903	Diode 1SS270A	
D810	276 0438 949	Diode MA151WK	
ZD101	276 0471 906	Zener Diode HZS11B-1	11V
ZD201,202	276 0459 902	Zener Diode HZS5B-1	5V
ZD601~603	276 0469 905	Zener Diode HZS9C-1	9V
ZD706,707	276 0615 908	Zener Diode 02CZ7.5Y	7.5V
ZD716	276 0481 909	Zener Diode HZS24-1	24V
ZD801	276 0457 904	Zener Diode HZS4C-1	4V
ZD802~807	276 0466 908	Zener Diode HZS7C-1	7V
ZD808	276 0469 905	Zener Diode HZS9C-1	9V
ZD809	276 0462 902	Zener Diode HZS6B-1	6V
ZD810	276 0454 907	Zener Diode HZS3C-1	3V
ZD812	276 0462 902	Zener Diode HZS6B-1	6V
ZD901~904	276 0615 908	Zener Diode 02CZ7.5Y	7.5V
ZD911	276 0464 900	Zener Diode HZS7A-1	7V
ZD912~917	276 0615 908	Zener Diode 02CZ7.5Y	7.5V
ZD919	276 0615 908	Zener Diode 02CZ7.5Y	7.5V
ZD920	276 0464 900	Zener Diode HZS7A-1	7V
LD401	393 9401 900	LED SEL2210R	Red
LD701	393 6003 107	LCD (SLU1875)	
RESISTORS GROUP			
R001,002	241 2398 997	Carbon Film 1.5kohm 1/4W	RD14B2E152J(5)
R101	247 0011 944	Chip Carbon 47kohm 1/10W	RM73B--473J
R102	247 0008 928	Chip Carbon 2.2kohm 1/10W	RM73B--222J
R103~105	241 2397 956	Carbon Film 360ohm 1/4W	RD14B2E361J(5)
R107	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R108,109	241 2393 905	Carbon Film 4.7ohm 1/4W	RD14B2E4R7J(5)
R110,111	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R112,113	247 0011 928	Chip Carbon 39kohm 1/10W	RM73B--393J
R114	247 0008 986	Chip Carbon 3.9kohm 1/10W	RM73B--392J
R116~121	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R122,123	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R124	247 0014 967	Chip Carbon 1Mohm 1/10W	RM73B--105J
R135	241 2398 955	Carbon Film 1kohm 1/4W	RD14B2E102J(5)
R201,202	247 0014 967	Chip Carbon 1Mohm 1/10W	RM73B--105J
R203,204	247 0007 990	Chip Carbon 1.6kohm 1/10W	RM73B--162J
R205~208	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R209~212	247 0014 967	Chip Carbon 1Mohm 1/10W	RM73B--105J
R213,214	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R215~218	247 0014 967	Chip Carbon 1Mohm 1/10W	RM73B--105J
R219~222	247 0011 944	Chip Carbon 47kohm 1/10W	RM73B--473J
R223,224	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J
R225,226	247 0010 945	Chip Carbon 18kohm 1/10W	RM73B--183J
R227~230	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R231,232	247 0010 945	Chip Carbon 18kohm 1/10W	RM73B--183J
R233~236	247 0006 962	Chip Carbon 470ohm 1/10W	RM73B--471J

Ref. No.	Part No.	Part Name	Remarks
R237~240	247 0011 944	Chip Carbon 47kohm 1/10W	RM73B--473J
R241~243	247 0008 915	Chip Carbon 2kohm 1/10W	RM73B--202J
R245~248	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J
R249	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R250~252	247 0010 961	Chip Carbon 22kohm 1/10W	RM73B--223J
R253	247 0005 905	Chip Carbon 100ohm 1/10W	RM73B--101J
R301	247 0013 900	Chip Carbon 220kohm 1/10W	RM73B--224J
R302	247 0008 928	Chip Carbon 2.2kohm 1/10W	RM73B--222J
R303~306	247 0011 944	Chip Carbon 47kohm 1/10W	RM73B--473J
R402	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R403	247 0010 916	Chip Carbon 13kohm 1/10W	RM73B--133J
R404	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R405	247 0006 962	Chip Carbon 470ohm 1/10W	RM73B--471J
R406	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J
R407	247 0008 944	Chip Carbon 2.7kohm 1/10W	RM73B--272J
R408	247 0006 988	Chip Carbon 560ohm 1/10W	RM73B--561J (U.S.A. model)
R408	247 0008 915	Chip Carbon 2kohm 1/10W	RM73B--202J (Europe model)
R409	247 0003 949	Chip Carbon 22ohm 1/10W	RM73B--220J
R410~412	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R413	247 0018 905	Chip Carbon 0ohm 1/10W	RM73B--0R0K
R414	247 0006 946	Chip Carbon 390ohm 1/10W	RM73B--391J
R415	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R416	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R417	247 0005 905	Chip Carbon 100ohm 1/10W	RM73B--101J
R418	247 0006 920	Chip Carbon 330ohm 1/10W	RM73B--331J
R419	247 0004 993	Chip Carbon 91ohm 1/10W	RM73B--910J
R420	247 0006 920	Chip Carbon 330ohm 1/10W	RM73B--331J
R421,422	247 0008 928	Chip Carbon 2.2kohm 1/10W	RM73B--222J
R423	247 0005 905	Chip Carbon 100ohm 1/10W	RM73B--101J
R425	247 0006 920	Chip Carbon 330ohm 1/10W	RM73B--331J
R426	247 0008 986	Chip Carbon 3.9kohm 1/10W	RM73B--392J
R427	247 0008 960	Chip Carbon 3.3kohm 1/10W	RM73B--332J (U.S.A. model)
R427	247 0011 902	Chip Carbon 33kohm 1/10W	RM73B--333J (Europe model)
R428	247 0010 961	Chip Carbon 22kohm 1/10W	RM73B--223J (U.S.A. model)
R428	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J (Europe model)
R429	247 0007 987	Chip Carbon 1.5kohm 1/10W	RM73B--152J
R430	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J
R431	247 0009 927	Chip Carbon 5.6kohm 1/10W	RM73B--562J
R432	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R433	247 0008 986	Chip Carbon 3.9kohm 1/10W	RM73B--392J (U.S.A. model)
R433	247 0009 930	Chip Carbon 6.2kohm 1/10W	RM73B--622J (Europe model)
R434	247 0009 972	Chip Carbon 9.1kohm 1/10W	RM73B--912J (U.S.A. model)
R434	247 0009 969	Chip Carbon 8.2kohm 1/10W	RM73B--822J (Europe model)
R435	247 0010 932	Chip Carbon 16kohm 1/10W	RM73B--163J
R436	247 0009 969	Chip Carbon 8.2kohm 1/10W	RM73B--822J
R437	247 0011 957	Chip Carbon 51kohm 1/10W	RM73B--513J
R438	247 0009 943	Chip Carbon 6.8kohm 1/10W	RM73B--682J
R439	247 0009 956	Chip Carbon 7.5kohm 1/10W	RM73B--752J
R440	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R441	247 0011 902	Chip Carbon 33kohm 1/10W	RM73B--333J
R442,443	247 0011 944	Chip Carbon 47kohm 1/10W	RM73B--473J
R444	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R445	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J
R446	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R447	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J

Ref. No.	Part No.	Part Name	Remarks
R448	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R450	241 2400 995	Carbon Film 10kohm 1/4W	RD14B2E103J(5)
R451	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R460	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R499	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R513~516	247 0009 930	Chip Carbon 6.2kohm 1/10W	RM73B--622J
R517~520	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R527	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R528	241 2398 997	Carbon Film 1.5kohm 1/4W	RD14B2E152J(5)
R601,602	247 0005 963	Chip Carbon 180ohm 1/10W	RM73B--181J
R603,604	247 0013 942	Chip Carbon 330kohm 1/10W	RM73B--334J
R605~608	247 0010 929	Chip Carbon 15kohm 1/10W	RM73B--153J
R609,610	247 0008 928	Chip Carbon 2.2kohm 1/10W	RM73B--222J
R611,612	247 0010 961	Chip Carbon 22kohm 1/10W	RM73B--223J
R613,614	247 0006 988	Chip Carbon 560ohm 1/10W	RM73B--561J
R617,618	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R619,620	247 0010 916	Chip Carbon 13kohm 1/10W	RM73B--133J
R621,622	247 0010 958	Chip Carbon 20kohm 1/10W	RM73B--203J
R623	247 0010 945	Chip Carbon 18kohm 1/10W	RM73B--183J
R624~630	247 0010 961	Chip Carbon 22kohm 1/10W	RM73B--223J
R632,633	247 0013 942	Chip Carbon 330kohm 1/10W	RM73B--334J
R634	247 0011 944	Chip Carbon 47kohm 1/10W	RM73B--473J
R635	247 0011 902	Chip Carbon 33kohm 1/10W	RM73B--333J
R636	247 0010 945	Chip Carbon 18kohm 1/10W	RM73B--183J
R637,638	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R639,640	247 0011 944	Chip Carbon 47kohm 1/10W	RM73B--473J
R641	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R642	247 0018 905	Chip Carbon 0ohm 1/10W	RM73B--0R0K
R643,644	247 0010 916	Chip Carbon 13kohm 1/10W	RM73B--133J
R645,646	247 0009 998	Chip Carbon 11kohm 1/10W	RM73B--113J (U.S.A. model)
R645,646	247 0009 969	Chip Carbon 8.2kohm 1/10W	RM73B--822J (Europe model)
R647,648	247 0009 927	Chip Carbon 5.6kohm 1/10W	RM73B--562J
R653	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R701	247 0012 985	Chip Carbon 180kohm 1/10W	RM73B--184J
R702,703	247 0018 905	Chip Carbon 0ohm 1/10W	RM73B--0R0K
R706	247 0005 947	Chip Carbon 150ohm 1/10W	RM73B--151J
R707	247 0006 959	Chip Carbon 430ohm 1/10W	RM73B--431J
R708	247 0007 958	Chip Carbon 1.1kohm 1/10W	RM73B--112J
R709	247 0007 974	Chip Carbon 1.3kohm 1/10W	RM73B--132J
R710	247 0008 986	Chip Carbon 3.9kohm 1/10W	RM73B--392J
R711	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J
R712	247 0005 947	Chip Carbon 150ohm 1/10W	RM73B--151J
R713	247 0005 963	Chip Carbon 180ohm 1/10W	RM73B--181J
R714	247 0006 904	Chip Carbon 270ohm 1/10W	RM73B--271J
R715	247 0006 946	Chip Carbon 390ohm 1/10W	RM73B--391J
R716	247 0007 903	Chip Carbon 680ohm 1/10W	RM73B--681J
R717	247 0007 974	Chip Carbon 1.3kohm 1/10W	RM73B--132J
R719	247 0005 947	Chip Carbon 150ohm 1/10W	RM73B--151J (U.S.A. model)
R719	247 0006 920	Chip Carbon 330ohm 1/10W	RM73B--331J (Europe model)
R720	247 0007 929	Chip Carbon 820ohm 1/10W	RM73B--821J (U.S.A. model)
R720	247 0007 903	Chip Carbon 680ohm 1/10W	RM73B--681J (Europe model)
R721	247 0007 903	Chip Carbon 680ohm 1/10W	RM73B--681J
R722	247 0007 974	Chip Carbon 1.3kohm 1/10W	RM73B--132J
R723	247 0008 986	Chip Carbon 3.9kohm 1/10W	RM73B--392J
R726	241 2394 962	Carbon Film 22ohm 1/4W	RD14B2E220J
R727,728	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J
R801	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J
R802,803	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R804~808	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J

Ref. No.	Part No.	Part Name	Remarks
R809,810	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R811,812	247 0005 905	Chip Carbon 100ohm 1/10W	RM73B--101J
R813	247 0010 958	Chip Carbon 20kohm 1/10W	RM73B--203J
R814	241 2397 969	Carbon Film 390ohm 1/4W	RD14B2E391J(5)
R816	247 0008 928	Chip Carbon 2.2kohm 1/10W	RM73B--222J
R817	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R818,819	241 2398 997	Carbon Film 1.5kohm 1/4W	RD14B2E152J(5)
R820	241 2396 999	Carbon Film 200ohm 1/4W	RD14B2E201J(5)
R821,822	241 2398 997	Carbon Film 1.5kohm 1/4W	RD14B2E152J(5)
R823	241 2396 999	Carbon Film 200ohm 1/4W	RD14B2E201J(5)
R824,825	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R827	241 2387 908	Carbon Film 1ohm 1/4W (N.B)	RD14B2E010JNBS
R839,840	241 2398 997	Carbon Film 1.5kohm 1/4W	RD14B2E152J(5)
R842	241 2397 969	Carbon Film 390ohm 1/4W	RD14B2E391J(5)
R917	247 0005 905	Chip Carbon 100ohm 1/10W	RM73B--101J
R919	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R921	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J
R922	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R923~925	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J
R926,927	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J
R937	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R938	247 0005 905	Chip Carbon 100ohm 1/10W	RM73B--101J
R939	247 0002 966	Chip Carbon 10ohm 1/10W	RM73B--100J
R940~947	247 0010 961	Chip Carbon 22kohm 1/10W	RM73B--223J
R948	247 0010 987	Chip Carbon 27kohm 1/10W	RM73B--273J
R950,951	247 0010 987	Chip Carbon 27kohm 1/10W	RM73B--273J
R963	247 0007 945	Chip Carbon 10kohm 1/10W	RM73B--103J
R965,966	247 0011 944	Chip Carbon 47kohm 1/10W	RM73B--473J
R967	247 0010 961	Chip Carbon 22kohm 1/10W	RM73B--223J
R969	247 0011 944	Chip Carbon 47kohm 1/10W	RM73B--473J
R970	247 0007 945	Chip Carbon 1kohm 1/10W	RM73B--102J
R971	247 0008 915	Chip Carbon 2kohm 1/10W	RM73B--202J (U.S.A. model only)
R975	247 0009 985	Chip Carbon 10kohm 1/10W	RM73B--103J
R977~984	247 0001 909	Chip Carbon 2.2ohm 1/10W	RM73B--2R2K
R985,986	247 0010 961	Chip Carbon 22kohm 1/10W	RM73B--223J
R988	247 0013 942	Chip Carbon 330kohm 1/10W	RM73B--334J
R989~991	247 0011 944	Chip Carbon 47kohm 1/10W	RM73B--473J
R992~999	247 0005 905	Chip Carbon 100ohm 1/10W	RM73B--101J
VR401	211 6077 912	Semi Fixed VR 20kohm	V06PB203
VR402	211 6077 983	Semi Fixed VR 47kohm	V06PB473
VR403	211 6077 954	Semi Fixed VR 22kohm	V06PB223
VR404	211 6077 938	Semi Fixed VR 100kohm	V06PB104
VR601,602	211 6077 925	Semi Fixed VR 10kohm	V06PB103

CAPACITORS GROUP

Ref. No.	Part No.	Part Name	Remarks
C101	254 4254 077	Electrolytic 470μF/16V	CE04W1C471M(SME)
C102,103	254 4299 951	Electrolytic 33μF/16V	CE04W1C330M(SRE)
C104	257 0012 982	C.Ceramic 0.022μF/50V	CK73F1H223Z
C105	254 4299 906	Electrolytic 10μF/16V	CE04W1C100M(SRE)
C106~109	257 0012 982	C.Ceramic 0.022μF/50V	CK73F1H223Z
C110,111	257 0003 933	C.Ceramic 30pF/50V	CC73SL1H300J
C114	257 0012 982	C.Ceramic 0.022μF/50V	CK73F1H223Z
C201~204	254 4299 906	Electrolytic 10μF/16V	CE04W1C100M(SRE)
C205,206	257 0014 935	C.Ceramic 0.1μF/25V	CK73F1E104Z
C207,208	257 0009 940	C.Ceramic 3300pF/50V	CK73B1H332K
C209~212	257 1012 907	C.Ceramic 0.068μF/50V	CK73B1H683K
C213,214	257 0003 920	C.Ceramic 27pF/50V	CC73SL1H270J
C215~218	254 4299 906	Electrolytic 10μF/16V	CE04W1C100M(SRE)
C219,220	257 0009 940	C.Ceramic 3300pF/50V	CK73B1H332K
C221,222	257 0014 935	C.Ceramic 0.1μF/25V	CK73F1E104Z
C223,224	254 4305 926	Electrolytic 0.22μF/50V	CE04W1HR22M(SRE)
C225~228	254 4299 922	Electrolytic 4.7μF/16V	CE04W1C4R7M(SRE)
C229~232	254 4300 934	Electrolytic 22μF/6.3V	CE04W0J220M(SRE)

Ref. No.	Part No.	Part Name	Remarks
C233,234	257 0014 935	C.Ceramic 0.1μF/25V	CK73F1E104Z
C235,236	254 4300 963	Electrolytic 100μF/6.3V	CE04W0J101M(SRE)
C238	257 0012 982	C.Ceramic 0.022μF/50V	CK73F1H223Z
C239,240	257 0008 983	C.Ceramic 1000pF/50V	CK73B1H102K
C245	254 4299 906	Electrolytic 10μF/16V	CE04W1C100M(SRE)
C301	257 0008 954	C.Ceramic 560pF/50V	CK73B1H561K
C302	257 0004 961	C.Ceramic 100pF/50V	CC73SL1H101J
C303	254 4304 901	Electrolytic 2.2μF/35V	CE04W1V2R2M(SRE)
C304	257 0014 935	C.Ceramic 0.1μF/25V	CK73F1E104Z
C305	257 0003 988	C.Ceramic 47pF/50V	CC73SL1H470J
C306	257 0004 945	C.Ceramic 82pF/50V	CC73SL1H820J
C307,308	257 0003 933	C.Ceramic 30pF/50V	CC73SL1H300J
C309,310	257 0014 935	C.Ceramic 0.1μF/25V	CK73F1E104Z
C311	257 0012 982	C.Ceramic 0.022μF/50V	CK73F1H223Z
C403	257 1013 993	C.Ceramic 0.1μF/25V	CK73B1E104K
C404	257 0010 900	C.Ceramic 0.01μF/50V	CK73B1H103K
C405	257 1011 982	C.Ceramic 0.047μF/50V	CK73B1H473K
C406	254 4304 901	Electrolytic 2.2μF/35V	CE04W1V2R2M(SRE) (U.S.A. model)
C406	254 4305 968	Electrolytic 1μF/50V	CE04W1H010M(SRE) (Europe model)
C407	257 0010 955	C.Ceramic 0.027μF/50V	CK73B1H273K
C408	257 0004 961	C.Ceramic 100pF/50V	CC73SL1H101J
C409	254 4302 958	Electrolytic 47μF/10V	CE04W1A470M(SRE)
C410,411	257 0016 917	C.Ceramic 22pF/50V	CC73CH1H220J
C412~414	257 0012 966	C.Ceramic 0.01μF/50V	CK73F1H103Z
C415	257 0013 907	C.Ceramic 0.047μF/50V	CK73F1H473Z
C416	257 0008 983	C.Ceramic 1000pF/50V	CK73B1H102K
C417,418	254 4305 968	Electrolytic 1μF/50V	CE04W1H010M(SRE)
C419	257 0017 903	C.Ceramic 12pF/50V	CC73RH1H120J
C420	254 4305 968	Electrolytic 1μF/50V	CE04W1H010M(SRE)
C421	254 4304 901	Electrolytic 2.2μF/35V	CE04W1V2R2M(SRE) (Europe model only)
C422	257 0009 924	C.Ceramic 2200pF/50V	CK73B1H222K
C423	254 4305 926	Electrolytic 0.22μF/50V	CE04W1HR22M(SRE)
C424	254 4305 968	Electrolytic 1μF/50V	CE04W1H010M(SRE)
C425	257 0010 900	C.Ceramic 0.01μF/50V	CK73B1H103K
C426	254 4305 968	Electrolytic 1μF/50V	CE04W1H010M(SRE)
C427	257 0003 933	C.Ceramic 30pF/50V	CC73SL1H300J
C428	254 4305 942	Electrolytic 0.47μF/50V	CE04W1HR47M(SRE)
C429	257 0010 900	C.Ceramic 0.01μF/50V	CK73B1H103K
C430	257 0013 907	C.Ceramic 0.047μF/50V	CK73F1H473Z
C431	254 4302 958	Electrolytic 47μF/10V	CE04W1A470M(SRE)
C432	257 0009 940	C.Ceramic 3300pF/50V	CK73B1H332K
C433	257 0009 982	C.Ceramic 6800pF/50V	CK73B1H682K
C434	257 0009 979	C.Ceramic 5600pF/50V	CK73B1H562K
C435	257 1013 993	C.Ceramic 0.1μF/25V	CK73B1E104K
C436	254 4299 922	Electrolytic 4.7μF/16V	CE04W1C4R7M(SRE)
C437,438	257 0011 967	C.Ceramic 0.033μF/25V	CK73B1E333K (U.S.A. model)
C437,438	257 0010 942	C.Ceramic 0.022μF/50V	CK73B1H223K (Europe model)
C439	257 0010 900	C.Ceramic 0.01μF/50V	CK73B1H103K
C440	257 0010 942	C.Ceramic 0.022μF/50V	CK73B1H223K
C441	254 4302 932	Electrolytic 22μF/10V	CE04W1A220M(SRE)
C442	257 0008 983	C.Ceramic 1000pF/50V	CK73B1H102K
C443	254 4304 901	Electrolytic 2.2μF/35V	CE04W1V2R2M(SRE)
C444	254 4305 926	Electrolytic 0.22μF/50V	CE04W1HR22M(SRE)
C445	257 0010 942	C.Ceramic 0.022μF/50V	CK73B1H223K
C446	257 0014 935	C.Ceramic 0.1μF/25V	CK73F1E104Z
C447,448	257 0012 982	C.Ceramic 0.022μF/50V	CK73F1H223Z
C449	257 0008 996	C.Ceramic 1200pF/50V	CK73B1H122K (Europe model only)
C450	254 4304 008	Electrolytic 2.2μF/35V	CE04W1V2R2M(SRE)
C451	254 4304 901	Electrolytic 2.2μF/35V	CE04W1V2R2M(SRE)

Ref. No.	Part No.	Part Name	Remarks
C513~516	254 4402 900	Electrolytic 1µF/50V	CE04W1H010M(KRE)
C517~520	257 0008 983	C.Ceramic 1000pF/50V	CK73B1H102K
C525	254 4456 707	Electrolytic 10µF/16V	CE04W1C100M(KRE)
C526	254 4455 915	Electrolytic 47µF/6.3V	CE04W0J470M(KRE)
C527,528	257 0014 935	C.Ceramic 0.1µF/25V	CK73F1E104Z
C530	254 4440 904	Electrolytic 100µF/16V	CE04W1C101M(KME)
C601~604	257 0006 927	C.Ceramic 470pF/50V	CC73SL1H471J
C605,606	257 0010 900	C.Ceramic 0.01µF/50V	CK73B1H103K
C607,608	257 0014 935	C.Ceramic 0.1µF/25V	CK73F1E104Z
C609,610	254 4305 942	Electrolytic 0.47µF/50V	CE04W1HR47M(SRE)
C611~614	257 0009 924	C.Ceramic 2200pF/50V	CK73B1H222K
C615,616	254 4305 968	Electrolytic 1µF/50V	CE04W1H010M(SRE)
C617,618	257 0009 924	C.Ceramic 2200pF/50V	CK73B1H222K
C619~622	257 0014 935	C.Ceramic 0.1µF/25V	CK73F1E104Z
C625~628	254 4299 922	Electrolytic 4.7µF/16V	CE04W1C4R7M(SRE)
C629	257 0009 966	C.Ceramic 4700pF/50V	CK73B1H472K
C630	257 0010 900	C.Ceramic 0.01µF/50V	CK73B1H103K
C631	254 4305 939	Electrolytic 0.33µF/50V	CE04W1HR33M(SRE)
C632	254 4302 974	Electrolytic 100µF/10V	CE04W1A101M(SRE)
C633~635	254 4300 934	Electrolytic 22µF/6.3V	CE04W0J220M(SRE)
C636	254 4302 974	Electrolytic 100µF/10V	CE04W1A101M(SRE)
C637	257 0004 961	C.Ceramic 100pF/50V	CC73SL1H101J
C638	257 0008 912	C.Ceramic 270pF/50V	CK73B1H271K
C639	254 4305 968	Electrolytic 1µF/50V	CE04W1H010M(SRE)
C640	254 4302 974	Electrolytic 100µF/10V	CE04W1A101M(SRE)
C641,642	254 4304 901	Electrolytic 2.2µF/35V	CE04W1V2R2M(SRE)
C643	257 0008 983	C.Ceramic 1000pF/50V	CK73B1H102K
C645,646	257 0003 988	C.Ceramic 47pF/50V	CC73SL1H470J
C647	257 0013 907	C.Ceramic 0.047µF/50V	CK73F1H473Z
C701,702	257 0014 935	C.Ceramic 0.1µF/25V	CK73F1E104Z
C704	257 1013 993	C.Ceramic 0.1µF/25V	CK73B1E104K
C801	254 6177 709	Electrolytic 3300µF/16V	CE04W1C332M(KMG)
C802,803	257 0012 982	C.Ceramic 0.022µF/50V	CK73F1H223Z
C804	257 0014 935	C.Ceramic 0.1µF/25V	CK73F1E104Z
C805	254 4299 951	Electrolytic 33µF/16V	CE04W1C330M(SRE)
C806	254 4300 934	Electrolytic 22µF/6.3V	CE04W0J220M(SRE)
C807	254 4302 974	Electrolytic 100µF/10V	CE04W1A101M(SRE)
C808,809	257 0014 935	C.Ceramic 0.1µF/25V	CK73F1E104Z
C810	254 4304 901	Electrolytic 2.2µF/35V	CE04W1V2R2M(SRE)
C811	254 4302 974	Electrolytic 100µF/10V	CE04W1A101M(SRE)
C822	257 0014 935	C.Ceramic 0.1µF/25V	CK73F1E104Z
C825	254 4299 906	Electrolytic 10µF/16V	CE04W1C100M(SRE)
C827	254 4302 974	Electrolytic 100µF/10V	CE04W1A101M(SRE)
C901	257 0013 907	C.Ceramic 0.047µF/50V	CK73F1H473Z
C902	257 0016 975	C.Ceramic 33pF/50V	CC73CH1H330J
C903	257 0016 933	C.Ceramic 15pF/50V	CC73CH1H150J
C906	257 0014 935	C.Ceramic 0.1µF/25V	CK73F1E104Z
C908	257 0013 907	C.Ceramic 0.047µF/50V	CK73F1H473Z
C913,914	257 0008 983	C.Ceramic 1000pF/50V	CK73B1H102K
C915~922	256 1034 979	Metalized 0.1µF/50V	CF93A1H104J
C923	257 0014 935	C.Ceramic 0.1µF/25V	CK73F1E104Z

OTHER GROUP				Q'ty
	—	(P.W.B Board)		1
L101	235 0060 947	Inductor 220µH		1
L301	235 0088 929	Chip Inductor 10µH		1
L401	235 0060 918	Inductor 4.7µH		1
L901	235 0088 929	Chip Inductor 10µH		1
S701~716	212 4388 910	Tact Switch		16
S717	212 0347 007	Rotary Encoder		1
S718~720	212 4388 910	Tact Switch		3
XT101	399 0063 002	Ceramic Resonator	CSA8.00MT	1
XT301	399 0151 008	Crystal(4.332 MHz)		1
XT302	399 0041 008	Ceramic Resonator	CSA4.00MG	1

Ref. No.	Part No.	Part Name	Remarks	Q'ty
XT401	399 0065 000	Crystal(7.2 MHz)		1
XT901	399 0107 007	Ceramic Resonator	CST4.19MGW	1
XT902	399 0217 007	Crystal(32.768 kHz)		1
CF401	261 0120 006	Ceramic Filter	SFE10.7MS3GK-A	1
CF402	261 0120 006	Ceramic Filter	SFE10.7MS3GK-A	1
CF403	261 0122 004	Ceramic Filter	CSB456F23C	1
T401	231 2088 006	FM Det. Trans		1
TN401	216 0091 009	FM/AM Tuner Pack	U.S.A. model	1
TN401	216 0090 000	FM/AM Tuner Pack	Europe model	1
PL701	393 0102 020	Lamp Ass'y	U.S.A. model	1
PL701	393 0102 017	Lamp Ass'y	Europe model	1
PL703	393 0102 020	Lamp Ass'y	U.S.A. model	1
PL703	393 0102 017	Lamp Ass'y	Europe model	1
PL704	393 0105 014	Lamp Ass'y	U.S.A. model	1
PL704	393 0105 027	Lamp Ass'y	Europe model	1
PL705	393 0102 020	Lamp Ass'y	U.S.A. model	1
PL705	393 0102 017	Lamp Ass'y	Europe model	1
PL707,708	393 0102 020	Lamp Ass'y	U.S.A. model	2
PL707,708	393 0102 017	Lamp Ass'y	Europe model	2
PL709	393 0105 014	Lamp Ass'y	U.S.A. model	1
PL709	393 0105 027	Lamp Ass'y	Europe model	1
	232 0178 005	Anti Birdie Filter	Europe model only	1
CB2A	205 0571 024	2P M15 Conn. Base(L)		1
CB2B	205 0343 029	2P Conn. Base(KR-PH)		1
CB3A	205 0233 032	3P EH Conn. Base		1
CB4A	205 0535 060	4P Conn. Base		1
CS4A	205 0536 069	4P Conn. Socket		1
CB5A	205 0355 059	5P KR Conn. Base(L)		1
CB5A	203 8365 003	5P PH-M04 Conn. Cord		1
CB6A	205 0406 063	6P Conn. Base(KR-PH)		1
CB6A	204 0405 003	6P PH-M04 Conn. Cord		1
CB8A	205 0233 087	8P EH Conn. Base		1
CB10A	205 0406 005	10P Conn. Base(KR-PH)		1
CB10A	204 2592 008	10P PH-M04 Conn. Cord		1
CB11B	205 0535 099	11P Conn. Base		1
CB11C	205 0535 099	11P Conn. Base		1
CS11B	205 0536 098	11P Conn. Socket		1
CS11C	205 0536 098	11P Conn. Socket		1
CB14A	205 0707 034	14P Conn. Base		1
CS14A	205 0708 033	14P Conn. Socket		1
CB15A	205 0707 018	15P Conn. Base		1
CS15A	205 0708 017	15P Conn. Socket		1
CB15B	204 6416 009	15P Conn. Plug		1
CS15B	204 6417 008	15P Conn. Socket		1
CB16A	205 0819 003	16P Conn. Base		1
CB18A	205 0820 005	18P Conn. Plug		1
CB18B	205 0707 021	18P Conn. Base		1
CS18B	205 0708 020	18P Conn. Socket		1
	143 0860 000	LCD Filter		1
	461 0810 000	Rubber Sheet		1
	414 0702 002	LCD Frame		1
	143 0846 202	LCD Lens		1
	412 3680 002	IC Holder		1
	414 0701 003	Reflection Sheet		2
	461 0435 058	Sheet		2
	461 0415 007	Rubber Sheet		2
	415 0712 008	Illumi. Sheet		4
	415 0710 000	Insulating Sheet (B)		1
	415 0309 068	P.V.C. Tube (L=5)		2
	415 0309 071	P.V.C. Tube (L=10)		4
	415 0578 006	P.V.C. Tube (L=20)		1

DENON

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